SALES MANUAL HEMATOLOGY PRODUCTS

Edition 2015

J.T.Baker®

Part of AVANTOR™ PERFORMANCE MATERIALS

PRODUCT SAFETY DATA SHEETS (SDS) ARE AVAILABLE ON REQUEST. PLEASE SEE PRODUCT SDS FOR COMPLETE INFORMATION REGARDING PRODUCT SAFETY AND APPROPRIATE PRECAUTIONS AND LEGAL REQUIREMENTS TO BE TAKEN WITH RESPECT TO PRODUCT HANDLING, USE AND DISPOSAL. ALL REFERENCES HEREIN WITH RESPECT TO WORDS SUCH AS "NON-HARMFUL," "NON-TOXIC," ETC. ARE INTENDED AS GENERAL REFERENCES AND SHOULD ONLY BE INTERPRETED IN THE CONTEXT OF THE COMPLETE PRODUCT SDS.

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General Information

Introduction
The manufacturing and purifying expertise of Avantor Performance Materials™ forms the basis of a comprehensive range of diluting reagents, lysing reagents, cleaning reagents and hematology controls. Avantor understands not just cell lysing and chemical interference of compounds on cell membranes, but also the characteristics of these compounds in aqueous solutions and their long term behavior in the presence of other chemicals.

Production
Avantor's J.T.Baker® brand reagents are produced using advanced production techniques in modern, certified manufacturing facilities to ensure minimal impurities. Both the high quality water and solvents used by Avantor in the manufacturing process help to improve the overall quality of the solutions produced. The products are bottled under controlled conditions to prevent contamination and degradation, assuring maximum purity and stability.

Quality Control
Every reagent batch is use-tested and released in accordance with ISO-9001 regulations. Our knowledgeable staff of specialists, working in well-equipped R&D and QC laboratories, assure lot-to-lot consistency and provide technical customer support.

Validation procedure
In keeping with the high-quality standards that J.T.Baker® brand reagents are known for, newly developed reagents for hematology analyzers are tested to meet or exceed the performance of those currently on the market. All new reagents undergo stringent tests, including:

- Chemical specification
- Correlation
- Reproducibility
- Linearity
- Performance hematology controls
- Stress testing
- Long-term stability

ISO 9001
Avantor's ongoing pursuit of total quality has resulted in a NEN-EN-ISO 9001:2008 certified quality system for Avantor's facilities in Deventer, the Netherlands. The NEN-EN-ISO 9001:2008 certification includes design, development, production and supply of the products.

ISO 13485
Avantor's facility in Deventer, the Netherlands has been ISO 13485:2003 certified since January 2012. ISO 13485 covers the design, development, production, sales and supply of high purity chemicals and kits for clinical diagnostics.

ISO 14001
Avantor's facility in Deventer, the Netherlands has been NEN-EN-ISO 14001:2004 certified since January 2004. ISO 14001 is ISO's environmental management system that describes the efforts taken to minimize harmful effects to the environment.

CE Mark, European IVD Directive 98/79/EC
Most of Avantor's hematology and histopathology products are CE marked. Avantor has completed the technical dossiers of these hematology products and registered these products at the competent authority, the Dutch Ministry of Health.

CE marking requires some additional information on the label. Symbols instead of text will be used to express some data:

IVD	For *in vitro* diagnostic use
	Expiry date: month-year
	Store temperature
	Manufactured by
CE	CE registered product
REF	Product Number
LOT	Lot Number: yyddd12345

The lot numbering system for hematology reagents (except hematology controls) has the following system for traceability purposes and shows the manufacturing date.

yy :	year of production
ddd :	day of production
12345 :	production number

Hematology controls have a 3-digit lot number, like 110, 111, 112. Each new batch has the subsequent lot number.

Fig. 1 Example of the label

Products that are not CE marked are not IVD's according to the definition of the directive. E.g. the Rinsing Solution VET is not CE marked. It is:

- not for medical purposes
- not designed to provide information about a physiological or pathological state or to monitor therapeutic measures or about a congenital abnormality
- not specific for human samples

Training possibilities

Avantor has several options to train distributors and service engineers on the proper use of our products, including:

- Education of our reagent line
- Technical experience with a number of cell counters
- Installation of reagents on cell counters
- Calibration of cell counters
- Reagent trouble shooting
- Complaint handling
- Assistance by one of our product specialists with reagent installation at the first key customer(s) or reference laboratories at the customer's site if necessary

A full reagent training session, as described above, is conducted over two or three days. A full training session for instrument maintenance can be completed in one day, per instrument line, and includes preventive maintenance, technical issues and troubleshooting.

Documentation

For more information about our product program, advised protocols, and troubleshooting, visit our website at www.avantormaterials.com

Declaration of CE Conformity

Avantor Performance Materials B.V. reg. no. 38013066 who is an established manufacturer of Hematology-Reagents, Stains, Controls and Calibrators and products for Histopathology located at:

Teugseweg 20
7418 AM Deventer
The Netherlands

herewith declares the following:

The reagents (see attached list) are labeled with the J.T.Baker® label and have the CE mark on the label where applicable. The devices comply with the In Vitro Diagnostic Medical Devices Directive 98/79/EC and the conformity assessment procedure according to Annex III. The BeneSphera™ 3 Part Diff Analyzer H32 is in compliance with IEC 61010, Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use.

The products are not part of List A and List B of Annex II of the IVD Directive 98/79/EC but are subject to self-registration.

This declaration is valid for all the IVD medical devices described above and which are placed on the market by ourselves on or after the date hereof and which bear the CE marking.

Deventer, the Netherlands.
August 26, 2014

J.Mittendorf
Manager Quality and Assurance

ISO Certificates

DNV BUSINESS ASSURANCE

MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 122474-2012-AQ-NLD-RvA

This is to certify that

Avantor Performance Materials B.V.

Teugseweg 20, 7418 AM Deventer, The Netherlands

has been found to conform to the Management System Standard:

ISO 9001:2008

This Certificate is valid for the following scope:

Design, development, production, sales and supply of high-purity chemicals for hematology, histopathology, laboratories, research centers, (bio) pharma, photovoltaic and the microelectronics industry.

Initial Certification date: 28 December 1994

This Certificate is valid until: 15 September 2015

The audit has been performed under the supervision of: H.E. Veldkamp, *Lead Auditor*

MGMT. SYS. RvA C 024

Place and date: Barendrecht, 17 September 2012

for the Accredited Unit: DET NORSKE VERITAS CERTIFICATION B.V.

A. [illegible], *Management Representative*

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.

ACCREDITED UNIT: DET NORSKE VERITAS CERTIFICATION B.V., Zwolseweg 1, 2994 LB, BARENDRECHT, THE NETHERLANDS, TEL: +31 (0)10 2922000 www.dnvba.com

Fig. 2 ISO 9001:2008
Certification guarantees continous total quality

DNV BUSINESS ASSURANCE

MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 109338-2012-AQ-NLD-NA

This is to certify that the Management System of:

Avantor Performance Materials B.V.

Teugseweg 20, 7418 AM DEVENTER, Netherlands

has been found to conform to the standard:

ISO 13485:2003

This Certificate is valid for the following product or service ranges:

Design, development, production, sales and supply of high purity chemicals and kits for clinical diagnostics.

Initial Certification date: 30 January 2012

This Certificate is valid until: 30 January 2015

The audit has been performed under the supervision of: B. Poldermans, *Lead Auditor*

NORWEGIAN ACCREDITATION MSYS 002

Place and date: Høvik, 30 January 2012

for the Accredited Unit: DET NORSKE VERITAS CERTIFICATION AS, NORWAY

Eugenie Winger Husebye, *Management Representative*

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.

This Certificate has been digitally signed for [illegible] for more info.

HEAD OFFICE: Det Norske Veritas AS, Veritasveien 1, 1322 Høvik, Norway. Tel: +47 67 57 99 00 Fax: +47 67 57 99 11 - www.dnv.com

Fig. 3 ISO 13485:2003
Especially for diagnostic products

DNV BUSINESS ASSURANCE

MANAGEMENT SYSTEM CERTIFICATE

Certificate No. 122475-2012-AE-NLD-RvA

This is to certify that

Avantor Performance Materials B.V.

Teugseweg 20, 7418 AM Deventer, The Netherlands

has been found to conform to the Management System Standard:

ISO 14001:2004

This certificate is issued on basis of the ISO 14001 certification scheme from SCCM and is valid concerning all activities related to:

Design, development, production, sales and supply of high-purity chemicals for hematology, histopathology, laboratories, research centers, (bio) pharma, photovoltaic and the microelectronics industry.

Initial Certification date: 11 December 2003

This Certificate is valid until: 15 September 2015

The audit has been performed under the supervision of: H.E. Veldkamp, *Lead Auditor*

MGMT. SYS. RvA C 024

Place and date: Barendrecht, 17 September 2012

for the Accredited Unit: DET NORSKE VERITAS CERTIFICATION B.V.

A. [illegible], *Management Representative*

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.

ACCREDITED UNIT: DET NORSKE VERITAS CERTIFICATION B.V., Zwolseweg 1, 2994 LB, BARENDRECHT, THE NETHERLANDS, TEL: +31 (0) 10 2922000 www.dnvba.com

Fig. 4 ISO 14001:2004
Certification highlights awareness and care for the environment

Hematology Analyzers, Reagents and Controls Product List

BeneSphera™ Product	Product Number	Pack Size	CE mark
Hematology Analyzers			
H34 3-Part Differential	2973	1 unit	CE
H32 3-Part Differential	2983	1 unit	CE
H32 VET 3-Part Differential	2977	1 unit	

J.T.Baker® Product	Product Number	Pack Size	CE mark
Diluents			
Diluid™ 100 Plus	3961	20 L	CE
Diluid™ 22	2990.9010PC	10 L	CE
Diluid™ 590	3954	20 L	CE
Diluid™ 610	3969	20 L	CE
Diluid™ Abacus	3430.9020	20 L	CE
	3430.9010	10 L	CE
Diluid™ AC 900	3996	20 L	CE
Diluid™ APR	3476.9020PC	20 L	CE
Diluid™ Azide free	3957	20 L	CE
Diluid™ BS34	2901.9010PC	10 L	CE
Diluid™ BS3 VET	2974.9010PC	10 L	
Diluid™ CA VET	2980.9010PC	10 L	
Diluid™ III Diff	3963	20 L	CE
	3963.9010	10 L	CE
Diluid™ Erma	3459.9020	20 L	CE
Diluid™ M5	3419.9020PC	20 L	CE
Diluid™ Mindray	3439.9020PC	20 L	CE
Diluid™ NR	3483.9020PC	20 L	CE
Diluid™ Ruby	2987.9020PC	20 L	CE
Diluid™/Sheath 3200-4000	3832.9020	20 L	CE
Diluid™ ST1600/2000	3976	20 L	CE
Sheath D	3495.9010PC	10 L	CE
Sheath Fluid 3000/3500	3471.9020PC	20 L	CE
Lyses			
CN-free Lyse Diff AC 900	3998	5 L	CE
CyMet™ 1000 CN free	3744	5 L	CE
CyMet™ 22	2986.0500PE	500 ml	CE
CyMet™ 3000	3469.9010PC	10 L	CE
CyMet™ 3200 CN free	3823.1000	1 L	CE
CyMet™ 3500	3839.5000PC	5 L	CE
CyMet™ 3500 CN free	3825	5 L	CE
CyMet™ 4500 CN free	3773.5000PC	5 L	CE
CyMet™ 530+ CN free	3975	10 L	CE
CyMet™ 590 CN free	3971	5 L	CE
CyMet™ 610 CN free	3970	10 L	CE
	3977	5 L	CE
CyMet™ Abacus Baso	3445.1000PE	1 L	CE

J.T.Baker® Product	Product Number	Pack Size	CE mark
CyMet™ Abacus CN free	3431.1000	1 L	CE
CyMet™ Abacus EO	3444.1000PE	1 L	CE
CyMet™ APR Baso II	3479.1000PE	1 L	CE
CyMet™ APR CN free	3417.0500PE	500 ml	CE
CyMet™ APR EO	3478.1000PE	1 L	CE
CyMet™ ASA	2950.3800PE	3.8 L	CE
CyMet™ ASB	2951.0380PE	380 ml	CE
CyMet™ AS CN free	2952.9010PC	10 L	CE
CyMet™ Automated	3755	5 L	CE
CyMet™ BS3 CN free	2982.0500PE	500 ml	CE
CyMet™ BS34 CN Free	2902.1000PE	1 L	CE
CyMet™ BS3 VET	2975.0500PE	500 ml	
CyMet™ CA VET	2981.5000PC	5 L	
CyMet™ III Diff	3964	5 L	CE
	3968	1 L	CE
CyMet™ III Diff CN free	3511.5000	5 L	CE
	3511.1000	1 L	CE
CyMet™ Erma	3416.0500	500 ml	CE
CyMet™ H12 CN Free	3841.1000PE	1 L	CE
CyMet™ H20	3853.1000	1 L	CE
CyMet™ KX CN Free	3425.0500	500 ml	CE
CyMet™ LH 53	2985.1000PE	1 L	CE
CyMet™ MBA	3489.1000PE	1 L	CE
CyMet™ MD(I)	3418.1000PE	1 L	CE
CyMet™ MD(I) 53	2984.1000PE	1 L	CE
CyMet™ MD(II)	3488.0500PE	500 ml	CE
CyMet™ MH CN Free	3497.0500PE	500 ml	CE
CyMet™ Micro	3852.1000	1 L	CE
CyMet™ Micro CN free	3863.1000	1 L micros	CE
CyMet™ Mindray	3441.0500PE	500 ml	CE
CyMet™ Mindray CN Free	3440.0500PE	500 ml	CE
CyMet™ NR III	3484.1000PE	1 L	CE
CyMet™ NR III CN Free	3486.1000PE	1 L	CE
CyMet™ NR V	3485.1000PE	1 L	CE
CyMet™ Ruby CN Free	2988.5000PC	5 L	CE
CyMet™ SF Baso	3480.5000PC	5 L	CE
CyMet™ SF Diff 1	3481.5000PC	5 L	CE
CyMet™ SF Diff 2	3482.0500PE	500 ml	CE
CyMet™ ST 1600/2000	3775.1000	1 L	CE
CyMet™ ST 1600/2000 CN free	3759.5000	5 L	CE
	3759.1000	1 L	CE
CyMet™ STX/STL	3788	1 L	CE
LeucoLyse	3475.5000PC	5 L	CE
LeucoLyse Ruby	2989.5000PC	5 L	CE
Lyzerglobin™	3077	500 ml	CE

J.T.Baker® Product	Product Number	Pack Size	CE mark
Lyzerglobin™	3769	6 x 15 ml	CE
Lyzerglobin™ PCE	3771	6 x 15 ml	CE
RBCLyse™	3513.1000PE	1 L	CE
RBCLyse™ G	3518G.1000PE	1 L	CE
WBCStabilise™	3514.0500PE	500 ml	CE
Reticulocyte Reagents			
RetiClear™ MHG	3493.1000PE	1 L	CE
RetiCount™	3774	30 ml	CE
RetiCount™ AS	2953.0210PE	210 ml	CE
RetiCount™ CD	3777	15 x 3.5 ml	CE
RetiCount™ G	3494.0200PE	200 ml	CE
Cleaners			
Blanking Solution Hgb	3507.9020	20 L	CE
Blanking Solution 1600/2000	3947	20 L	CE
DetectoTerge™	3763	5 L	CE
	3766	1 L	CE
DetectoTerge™ BS	2970.0900PE	900 ml	CE
HyClean BS34	2907.5000PC	5 L	
Hypochlorite 0.5%	3917.5000	5 L	
	3917	1 L	
Hypochlorite NR	3941.5000PC	5 L	
	3941.1000PE	1 L	
	3941.0100PE	100 ml	
ProClean™	3900	5 L	CE
	3768.1000	1 L micros	CE
ProClean™ Abacus	3432.5000	5 L	CE
	3432.1000PE	1 L	CE
ProClean™ CD	3902.0100PE	100 ml	CE
ProClean™ Extra	3862.5000	5 L	CE
	3862.1000	1 L	CE
	3867.1000PE	1 L micros	CE
ProClean™ MX5	3498.1000PE	1 L	CE
ProClean™ Plus	3901	100 ml	CE
Rinse Mindray	3442.5000PE	5 L	CE
Rinse VET	3438.5000PC	5 L	
	3438.1000PE	1 L	

J.T.Baker® Product	Product Number	Pack Size	CE mark
Hematology Controls			
8-Parameter Control L/N/H	3427/3428/3429	2.5 ml	CE
	3463/3464/3465	2.5 ml	CE
	3701/3702/3703	4.5 ml	CE
8-Parameter Control L+N+H	3746	3 x 2.5 ml	CE
8-Parameter Control 4xN	3747	4 x 2.5 ml	CE
8-Parameter Control 1xL+4xN+1xH	3751	6 x 2.5 ml	CE
8-Parameter Control extended L/N/H	3633/3634/3635	2.5 ml	CE
8-Parameter Control VET L/N/H	2904/2905/2906	2.5 ml	
3-Diff Control L/N/H	3433/3434/3435	2.5 ml	CE
	3502/3503/3504	4.5 ml	CE
3-Diff Control 4xL	3466	4 x 2.5 ml	CE
3-Diff Control 4xN	3467	4 x 2.5 ml	CE
3-Diff Control 4xH	3468	4 x 2.5 ml	CE
3-Diff Control extented L/N/H	3421/3422/3423	2.5 ml	CE
5D Control L/N/H	3681/3682/3683	5.0 ml	CE
ADV-Diff Control L/N/H	3684/3685/3686	3.5 ml	CE
BC-Diff 5 Control L/N/H	3613/3614/3615	3.0 ml	CE
Cal-Set 1	3940	2 x 2.5 ml	
CD-Diff Control L/N/H	3452/3453/3454	3.0 ml	CE
CD-Diff Control 2xL+2xN+2xH	3838	6 x 3.0 ml	CE
K-Diff Control L/N/H	3455/3456/3457	2.5 ml	CE
Platelet Control- Extended value	3424	5 x 3.0 ml	CE
SF-Diff Control L/N/H	3693/3694/3695	4.5 ml	CE
WBC Reduced RBC L/H	3698/3699	3.0 ml	CE
XE-Diff Control L/N/H	3731/3732/3733	4.5 ml	CE
Stains and Dyes			
Giemsa	3856.2500	2.5 L	CE
	3856.1000	1 L	CE
	3856.0500	500 ml	CE
	3856.0100	100 ml	CE
Leishman	3879.1000	1 L	CE
May Grünwald	3855.2500	2.5 L	CE
	3855.1000	1 L	CE
	3855.0500	500 ml	CE
Sørensen buffer	3716	10 x 100 ml	
Wright	3878.1000	1 L	CE

Abbott® Analyzers

Abbott® Analyzers - Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
Abbott Cell-Dyn® Sapphire, 4000			
Diluent	Diluid™/Sheath 3200-4000	3832.9020	20 L
Lyse	CyMet™ ASA	2950.2500PE	2.5 L
	CyMet™ ASB	2951.0500PE	500 ml
	CyMet™ AS CN Free	2952.9010PC	10 L
Reticulocyte reagent	RetiCount™ AS	2953.0210PE	210 ml
Emergency Cleaner	ProClean™ CD	3902.0100PE	100 ml
Hematology Control	CD-Diff Control L/N/H	3452/3453/3454	3.0 ml
Abbott Cell-Dyn® 3700, 3500			
Diluent	Diluid™ ST1600/2000	3976	20 L
Lyse	CyMet™ 3500 CN Free	3825	5 L
	CyMet™ 3500	3839.5000PC	5 L
Scatter reagent	Sheath Fluid 3000/3500	3471.9020PC	20 L
Rinse, on line	Blanking Solution ST1600/2000	3947	20 L
Reticulocyte reagent	RetiCount™ CD	3777	15 x 3.5 ml
Emergency Cleaner	ProClean™ CD	3902.0100PE	100 ml
Hematology Control	CD-Diff Control L/N/H	3452/3453/3454	3.0 ml
Abbott Cell-Dyn® Ruby			
Diluent	Diluid™ Ruby	2987.9020PC	20 L
Lyse	CyMet™ Ruby CN Free	2988.5000PC	5 L
Scatter reagent	Leuco Ruby	2989.5000PC	5 L
Reticulocyte reagent	RetiCount™ CD	3777	15 x 3.5 ml
Emergency Cleaner	ProClean™ Plus	3901	100 ml
Hematology Control	CD-Diff Control L/N/H	3452/3453/3454	3.0 ml
Abbott Cell-Dyn® 3200			
Diluent	Diluid™/Sheath 3200-4000	3832.9020	20 L
Lyse	CyMet™ 3200 CN Free	3823.1000	1 L
Scatter reagent	LeucoLyse	3475.5000PC	5 L
Reticulocyte reagent	RetiCount™ CD	3777	15 x 3.5 ml
Emergency Cleaner	ProClean™ CD	3902.0100PE	100 ml
Hematology Control	CD-Diff Control L/N/H	3452/3453/3454	3.0 ml
Abbott Cell-Dyn® 3000			
Diluent	Diluid™ ST1600/2000	3976	20 L
Lyse	CyMet™ 3000	3469.9010PC	10 L
Scatter reagent	Sheath Fluid 3000/3500	3471.9020PC	20 L
Emergency Cleaner	ProClean™ CD	3902.0100PE	100 ml
Hematology Control	CD-Diff Control L/N/H	3452/3453/3454	3.0 ml

Description	J.T.Baker® Product	Product Nr.	Pack Size
Abbott Cell-Dyn® 1800, 1700, 1600, 1300			
Diluent	Diluid™ ST1600/2000	3976	20 L
Lyse	CyMet™ ST1600/2000	3775.1000	1 L
	CyMet™ ST1600/2000 CN Free	3759.5000	5 L
		3759.1000	1 L
Rinse, online	Blanking Solution ST1600/2000	3947	20 L
Emergency Cleaner	ProClean™ CD	3902.0100PE	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml
Abbott Cell-Dyn® Emerald 18			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ III Diff CN Free	3511.5000	5 L
		3511.1000	1 L
Cleaner	ProClean™	3900	5 L
Hematology Control	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml

Abbott® Analyzers - Cross List

An overview of comparable Abbott® brand and J.T.Baker® brand reagents is shown in the table below. When replacing Abbott® reagents with J.T.Baker® reagents, information about priming and calibration can be found on the next pages.

Abbott® Product	Abbott® Nr.	J.T.Baker® Product	J.T.Baker® Nr.
Abbott Cell-Dyn® Sapphire, 4000			
Diluent/Sheath	01H73-01	Diluid™/Sheath 3200-4000	3832.9020
HGB Lyse	01H79-01	CyMet™ AS CN Free	2952.9010PC
WBC Reagent part A	01H77-01	CyMet™ ASA	2950.2500PE
WBC Reagent part B	01H78-01	CyMet™ ASB	2951.0500PE
Sapphire reticulocyte reagent	1H76-01	RetiCount™ AS	2953.0210PE
Enzymatic Cleaner	99644-01	ProClean™ CD	3902.0100PE
Abbott Cell-Dyn® 3700, 3500			
Diluent	99231-01	Diluid™ ST1600/2000	3976
HGB/WIC Lyse	99431-01	CyMet™ 3500	3839.5000PC
	03H62-01	CyMet™ 3500 CN Free	3825
Sheath	99311-01	Sheath Fluid 3000/3500	3471.9020PC
Reticulocyte reagent	03H40-01	RetiCount™ CD	3777
3500/3700 detergent	99321-01	Blanking solution ST1600/2000	3947
Enzymatic Cleaner	99644-01	ProClean™ CD	3902.0100PE

Abbott® and Cell-Dyn® and its subsidiary products are trademarks of Abbott Laboratories Corporation.
The information contained herein has not been approved by Abbott Laboratories Corporation.
Always refer to the user manual provided with the equipment at issue.

Abbott® Analyzers - Cross List (continued)

Abbott® Product	Abbott® Nr.	J.T.Baker® Product	J.T.Baker® Nr.
Abbott Cell-Dyn® Ruby			
Diluent/Sheath	01H73-01	Diluid™ Ruby	2987.9020PC
HGB/NOC Lyse	03H80-02	CyMet™ Ruby CN Free	2988.5000PC
WBC Lyse	08H52-01	Leuco Ruby	2989.5000PC
Reticulocyte reagent	03H40-01	RetiCount™ CD	3777
Enzymatic Cleaner	99644-01	ProClean™ CD	3902.0100PE
Abbott Cell-Dyn® 3200			
Diluent/Sheath	03H79-01	Diluid™/Sheath 3200-4000	3832.9020
HGB/NOC Lyse	03H80-02	CyMet™ 3200 CN Free	3823.1000
WBC Lyse	03H78-01	LeucoLyse	3475.5000PC
Reticulocyte reagent	03H40-01	RetiCount™ CD	3777
Enzymatic Cleaner	99644-01	ProClean™ CD	3902.0100PE
Abbott Cell-Dyn® 3000			
Diluent	99231-01	Diluid™ ST1600/2000	3976
HGB/WIC Lyse	99431-01	CyMet™ 3000	3469.9010PC
Sheath	99311-01	Sheath Fluid 3000/3500	3471.9020PC
Enzymatic Cleaner	99644-01	ProClean™ CD	3902.0100PE
Abbott Cell-Dyn® 1800, 1700, 1600, 1300			
1700 / 1800 series Diluent	99220-01	Diluid™ ST1600/2000	3976
	99226-01		
	08H17-04		
Lytic agent	99420-01	CyMet™ ST1600/2000 CN Free	3759.1000
	99435-01	CyMet™ ST1600/2000	3775.1000
	08H19-01		
1700 / 1800 Lyse CN Free	03H59-01	CyMet™ ST1600/2000 CN Free	3759.1000
	07H84-01		
1700 / 1800 detergent	08H18-02	Blanking solution ST1600/2000	3947
Enzymatic Cleaner	99644-01	ProClean™ CD	3902.0100PE
Abbott Cell-Dyn® Emerald 18			
Emerald 18 Diluent	09H48-01	Diluid™ III Diff	3963
	09H49-02		
Emerald 18 Lyse	09H47-02	CyMet™ III Diff CN Free	3511.1000
Emerald 18 Cleaner	09H46-01	ProClean™	3900

Abbott® Analyzers - Reagent Consumption

An indication of the consumption of reagents per test is shown in the table below. The actual consumption value can change due to necessary priming and cleaning steps.

Analyzer Type	J.T.Baker® Product	Consumption Per Test
Abbott Cell-Dyn® Sapphire (Rev. 2-3)	Diluid™/Sheath 3200-4000	47.7 ml (57.3 ml incl. reticulocytes count)
	CyMet™ ASA	3.5 ml
	CyMet™ ASB	0.4 ml
	CyMet™ AS CN Free	9.6 ml
	RetiCount™ AS	0.9 ml
Abbott Cell-Dyn® 4000 (Rev. 9.2/9.3)	Diluid™/Sheath 3200-4000	47 ml (55 ml incl. reticulocytes count)
	CyMet™ ASA	3.6 ml
	CyMet™ ASB	0.4 ml
	CyMet™ AS CN Free	11 ml
	RetiCount™ AS	0.7 ml
Abbott Cell-Dyn® 3500 (SL)	Diluid™ ST1600/2000	35.4 ml
	CyMet™ 3500 (CN Free)	0.8 ml
	Sheath Fluid 3000/3500	14.4 ml
	Blanking Solution ST1600/2000	18.3 ml
Abbott Cell-Dyn® Ruby	Diluid™ Ruby	50 ml
	CyMet™ Ruby CN Free	1.3 ml
	Leuco Ruby	5.5 ml
Abbott Cell-Dyn® 3200 (SL or CS)	Diluid™/Sheath 3200-4000	46.6 ml
	CyMet™ 3200 CN Free	0.6 ml
	LeucoLyse	1.4 ml
Abbott Cell-Dyn® 3000 (SL)	Diluid™ ST1600/2000	32 ml
	CyMet™ 3000	8 ml
	Sheath Fluid 3000/3500	14 ml
Abbott Cell-Dyn® 1800	Diluid™ ST1600/2000	34.2 ml
	CyMet™ ST1600/2000 (CN Free)	1 ml
	Blanking Solution ST1600/2000	16 ml
Abbott Cell-Dyn® 1700	Diluid™ ST1600/2000	36 ml
	CyMet™ ST1600/2000 (CN Free)	1 ml
	Blanking Solution ST1600/2000	15 ml

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Abbott® Analyzers – Priming and Calibration

Priming of Abbott Cell-Dyn® Sapphire, 4000

1. Run 3 hematology controls or 5 reference patient samples. Keep the values to use during calibration.
2. Remove the aspirating tubes from the Abbott® reagent cubitainers and bottles and put them in clean beakers.
3. Rinse the aspirating tubes with distilled or de-ionized water to avoid reagent contamination.
4. Select option <Analyzer> and selection option <Special protocols>.
5. Select option <Empty Dil1> to empty the reservoir. Wait till the selected procedure stops.
6. Connect Diluid™/Sheath 3200-4000 to the aspiration tubes of the Diluent.
7. Select option <Fill Dil1>. Wait till the selected procedure stops.
8. Select option <Empty DIL2> to empty the reservoir. Wait till the selected procedure stops.
9. Select option <Fill DIL2> to fill the reservoir.
10. Select option <Empty HGB> to empty the reservoir. Wait till the selected procedure stops.
11. Connect CyMet™ AS CN Free to the aspiration tube of HGB.
12. Select option <Fill HGB>. Wait till the selected procedure stops.
13. Select option <Empty WBC A&B> to empty the reservoirs. Wait till the selected procedure stops.
14. Connect both CyMet™ ASA and CyMet™ ASB to the aspiration tubes of WBC A reagent and WBC B reagent.
15. Select option <Fill WBC A&B>. Wait till the selected procedure stops.
16. Select option <Analyzer> and selection option <Special protocols>.
17. Select option <Prime> to perform a prime cycle and achieve Ready mode.
18. Run the hematology controls or reference patient samples from step 1 again. Compare the values and check if any calibration is needed.

Priming of Abbott Cell-Dyn® Sapphire, 4000 for Reticulocyte reagent

1. Remove the aspirating tube from the Abbott® Reticulocyte reagent bottle and put it in a clean beaker.
2. Remove Abbott® Reticulocyte reagent bottle.
3. Rinse the aspirating tube with distilled or de-ionized water to avoid reagent contamination.
4. Select option <Run open tube>, select <Specimen type: Background> and select <Sub type: RETC>. Select <OK>.
5. Press the Sample aspiration button to perform a background. The instrument will give a fault alarm.
6. Connect RetiCount™ AS to the aspiration tube.
7. Repeat steps 4-5 at least 7 times.

Calibration of Abbott Cell-Dyn® Sapphire, 4000

1. Select option <Analyzer> and selection option <Calibration>.
2. Select option <Calibration factors>.
3. Select option <Print screen> to printout the factors.
4. Calculate new calibration factors:

$$\text{new calibration factor} = \frac{\text{assigned value}}{\text{mean value}} \times \text{current calibration factor}$$

5. Select option <New factors entry …>. Enter the new calibration factors. Continue to the next parameter using key ↓.
6. Select option <Activate> to save and activate the new factors.

Priming of Abbott Cell-Dyn® 3700, 3500, 3000

1. Run 3 hematology controls or 5 reference patient samples. Keep the values to use during calibration.
2. Remove the aspirating tubes from the Abbott® reagent cubitainers and bottles and put them in clean beakers.
3. Rinse the aspirating tubes with distilled or de-ionized water to avoid reagent contamination.
4. Select option <Special protocols> from the main menu.
5. Select option <Empty reag reservoir> to empty all reagent reservoirs on the Cell-Dyn® 3000 or select option <Empty reservoir> for each separate reagent reservoir on the Cell-Dyn® 3500 and Cell-Dyn® 3700.
6. Select option <Fill reag resv> to empty the aspiration tube. The instrument will give a fault alarm.
7. Connect the J.T.Baker® reagents to the corresponding aspiration tubes.
8. Select option <Clear fault>. All J.T.Baker® reagents will be aspirated into the reagent reservoirs.
9. Repeat steps 5-6 at least 3 times.
10. Select option <Main> and then <Run>.
11. Perform at least 3 blank counts.
12. Review the displayed data. Acceptable values are as follows:

Parameter	Background
WBC	< 0.5 x 10^9/L
RBC	< 0.05 x 10^{12}/L
HGB	< 0.2 g/dL
PLT	< 10 x 10^9/L

13. When acceptable background values are displayed the priming is successful. If not, repeat steps 5-6 again.
14. Run the hematology controls or reference patient samples from step 1 again. Compare the values and check if any calibration is needed.

Note: When changing from cyanide-containing to cyanide-free reagents, a recalibration for the Hemoglobin is required.

Calibration of Abbott Cell-Dyn® 3700, 3500, 3000

Two calibration options are available. Select option <Auto-Calibrate> to run an automatic calibration or follow the manual calibration process as below.

1. Select option <Calibration> from the main menu. The calibration menu displays the calibration factors.
2. Select option <Open sampler> or <Closed sampler>.
3. Select option <Print screen> to printout the factors.
4. Calculate new calibration factors:

$$\text{new calibration factor} = \frac{\text{assigned value}}{\text{mean value}} \times \text{current calibration factor}$$

5. Select option <Enter factor> to enter new calibration factors. Continue to the next parameter using key ↓. It is advised to enter the factors for both open and closed modes.
6. Press <Return> to leave the calibration menu.

Priming of Abbott Cell-Dyn® Ruby, 3200

1. Run 3 hematology controls or 5 reference patient samples. Keep the values to use during calibration.
2. Remove the aspirating tubes from the Abbott® reagent cubitainers and bottles and put them in clean beakers.
3. Rinse the aspirating tubes with distilled or de-ionized water to avoid reagent contamination.
4. Select option <Special protocols> from the main menu.
5. Select option <Reagent reservoir>.
6. Select option <Empty …> to empty the reservoir from the reagent to be replaced. Wait till <Fill …> toggles.
7. Connect the J.T.Baker® reagents to the corresponding aspiration tubes.
8. Select option <Fill …>.
9. Perform steps 4-8 for all three reagents.

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10. Select option <Special protocols> from the main menu, then select option <More> and select option <Daily shutdown>. Wait till the Standby status has been achieved.
11. Select option <Run> to perform a prime cycle and achieve "Ready" mode.
12. Perform at least 3 blank counts.
13. Review the displayed data. Acceptable values are as follows:

Parameter	Background
WBC	< 0.5 x 10^9/L
RBC	< 0.05 x 10^{12}/L
HGB	< 0.2 g/dL
PLT	< 10 x 10^9/L

14. When acceptable background values are displayed the priming is successful. If not, repeat steps 4-8 again.
15. Run the hematology controls or reference patient samples from step 1 again. Compare the values and check if any calibration is needed.

Note: When changing from cyanide-containing to cyanide-free reagents, a recalibration for the Hemoglobin is required.

Calibration of Abbott Cell-Dyn® Ruby, 3200

Two calibration options are available. Select option <Auto-Calibrate> to run an automatic calibration or follow the manual calibration process as below.

1. Select option <Calibration> from the main menu. The calibration menu displays the calibration factors.
2. Select option <Open sampler> or <Closed sampler>.
3. Select option <Print screen> to printout the factors.
4. Calculate new calibration factors:

$$\text{new calibration factor} = \frac{\text{assigned value}}{\text{mean value}} \times \text{current calibration factor}$$

5. Press <F12> and then <F1> to enter new dilution factors. Continue to the next parameter using key ↓. It is advised to enter the factors for both open and closed modes.
6. Press <Return> to leave the dilution factor menu.

Optimization of WOC Channel performance of Abbott Cell-Dyn® 3700, 3500, 3200, 3000 and Ruby

The following procedure describes the optimization of the White Optical Count (WOC) channel by adjusting the software settings.

1. Select option <Diagnostics>, press F1+F12 and select option <Print screen> to printout the WOC gains from the set point entry screen.
2. Select option <Quality Control> and select option <X-B …> to printout the actual WOC channel settings.
3. Calculate new WOC gains per parameter for Neu 0°, Neu 10°, Neu 90° and Neu 90°D:

$$\text{new WOC gain} = \frac{\text{Target parameter value x Actual WOC gain}}{\text{Actual parameter value}}$$

The following target parameter values have to be used:

Parameter	Target value	New WOC gain
NEU 0°	160	WOC 0D
NEU 10°	149	WOC 10D
NEU 90°	125	WOC 90D
NEU 90°D	21	WOC 90DP

4. Select option <Diagnostics> and enter the calculated new WOC gains in the set point entry screen.

   Note: Changing WOC 0D will be valid for both Neu 0° and Lym 0°; changing WOC 10D will be valid for both Neu 10° and Lym 10°.

5. Select option <Set analyzer> to activate the new gains.

Priming of Abbott Cell-Dyn® 1700, 1600, 1300

1. Run 3 hematology controls or 5 reference patient samples. Keep the values to use during calibration.
2. Remove the aspirating tubes from the Abbott® reagent cubitainers and bottles and put them in clean beakers.
3. Rinse the aspirating tubes with distilled or de-ionized water to avoid reagent contamination.

4. Select option <Main>.
5. Select option <Special protocols>.
6. Select two times option <More>.
7. Connect J.T.Baker® Diluid™ ST1600/2000, Blanking Solution ST1600/2000, CyMet™ ST1600/2000 (CN Free) to the corresponding aspiration tubes.
8. Select option <Reagent prime> to prime Diluid ST1600/2000 and Blanking Solution ST1600/2000.
9. Select option <Lyse priming> to prime CyMet™ ST1600/2000.
10. Repeat step 8 at least 4 times and step 9 at least 6 times.
11. Select option <Main> and then <Run>. An auto-startup prime cycle and background check will be completed.
12. Review the displayed data. Acceptable values are as follows:

Parameter	Background
WBC	< 0.5 x 10^9/L
RBC	< 0.05 x 10^{12}/L
HGB	< 0.2 g/dL
PLT	< 10 x 10^9/L

13. When acceptable background values are displayed the priming is successful. If not, repeat steps 8-9 again.
14. 12. Run the hematology controls or reference patient samples from step 1 again. Compare the values and check if any calibration is needed.

Note: When changing from cyanide-containing to cyanide-free reagents, a recalibration for the Hemoglobin is required.

Calibration of Abbott Cell-Dyn® 1700, 1600, 1300

Two calibration options are available. Select option <Auto-Calibrate> to run an automatic calibration or follow the manual calibration process as follows.

Open mode:

1. Select option <Calibration> from the main menu. The calibration menu displays the calibration factors.
2. Calculate new calibration factors:

$$\text{new calibration factor} = \frac{\text{assigned value}}{\text{mean value}} \times \text{current calibration factor}$$

3. Select option <Enter factor> to enter new calibration factors. Continue to the next parameter using key ↓.
4. Select option <Return> to leave the calibration menu.

Closed mode:

1. Select option <Calibration> from the main menu.
2. Enter '94043'. The menu displays the dilution (calibration) factors.
3. Calculate new calibration factors:

$$\text{new calibration factor} = \frac{\text{assigned value}}{\text{mean value}} \times \text{current calibration factor}$$

4. Select option <Enter factor> to enter new dilution factors. Continue to the next parameter using key ↓.
5. Select option <Return> to leave the calibration menu.

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ABX® Analyzers

ABX® Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
ABX® Pentra® 80, 60, 60C, 60C+, 60MS			
Diluent	Diluid™ APR	3476.9020PC	20 L
Lyse	CyMet™ APR CN Free	3417.0500PE	500 ml
Lyse for Eosinophils	CyMet™ APR EO	3478.1000PE	1 L
Lyse for Basophils	CyMet™ APR Baso II	3479.1000PE	1 L
Cleaner, on-line	DetectoTerge™	3766	1 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
ABX® Micros® 60, ES60, 45			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ Micro	3852.1000	1 L
	CyMet™ Micro CN Free	3863.1000	1 L micros bottle
Cleaner	ProClean™ Extra	3867.1000PE	1 L micros bottle
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml

For barcode procedures for ABX® Pentra® 80, 60C and 60C+ see the following pages.

ABX® Analyzers – Cross List

An overview of comparable ABX® brand and J.T.Baker® brand reagents is shown in the table below. When replacing ABX® reagents with J.T.Baker® reagents, information about priming and calibration can be found on the next pages.

ABX® Product	ABX® Nr.	J.T.Baker® Product	J.T.Baker® Nr.
ABX® Pentra® 80, 60, 60C, 60C+			
Eosinofix™	0206010	CyMet™ APR EO	3478.1000PE
Diluent™	0901020	Diluid™ APR	3476.9020PC
Cleaner™	0903010	DetectoTerge™	3766
Basolyse™	0906003	CyMet™ APR Baso II	3479.1000PE
Lysebio CN Free™	0906013	CyMet™ APR CN Free	3417.0500PE

ABX® Analyzers – Cross List (continued)

ABX® Product	ABX® Nr.	J.T.Baker® Product	J.T.Baker® Nr.
ABX® Micros® 60, 45			
MiniClean™	0403010	ProClean™ Extra	3867.1000PE
Pack Micros LMG™ (diluent+lyse+cleaner)	0602050	Diluid™ III Diff, CyMet™ Micro (CN Free), ProClean™ Extra	3963, 3852.1000 or 3863.1000, 3867.1000PE
Minilyse™ LMG	0702010	CyMet™ Micro (CN Free)	3852.1000 or 3863.1000
Lysebio™	0906012	CyMet™ Micro CN Free	3852.1000
Minidil™ LMG	0802010	Diluid™ III Diff	3963
Minoclair™	0401005	Hypochlorite 0.5%	3917

ABX® Analyzers – Reagent Consumption

An indication of the consumption of reagents per test is shown in the table below. The actual consumption value can change due to necessary priming and cleaning steps.

Analyzer Type	J.T.Baker® Product	Consumption Per Test
ABX® Pentra® 80, 60	Diluid™ APR	25.6 ml
	CyMet™ APR EO	1 ml
	CyMet™ APR Baso II	2.1 ml
	CyMet™ APR CN Free	0.4 ml
	DetectoTerge™	0.9 ml
ABX® Micros® 60, 45	Diluid™ III Diff	22 ml
	CyMet™ Micro (CN Free)	0.6 ml
	ProClean™ Extra	1 ml

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ABX® Analyzers – Performance Information

ABX® Pentra® 60 EO reagent – Stability and black dye

J.T.Baker® CyMet™ APR EO contains an alcohol that vaporizes during use, resulting in an open bottle stability of one month. After one month of utilization, CyMet™ APR EO should be replaced.

CyMet™ APR EO contains a black dye. The intense black color is seen in the tygon tubing containing CyMet™ APR EO. Contamination and colorization of the WBC flowcell will not occur, due to the special hydrodynamic focusing technique in the ABX® Pentra®. CyMet™ APR EO is surrounded by Diluid™ APR in the flowcell, which prevents coloring of the flowcell walls.

ABX® Pentra® 60 EO reagent – Positioning 4-part differential

When connecting J.T.Baker® CyMet™ APR EO a small shift to the right of the neutrophil and monocyte clusters can be seen compared to ABX® reagents. The positioning (left to right) of the 4-part differential may differ per instrument. False atypical lymphocyte flags are shown when the whole 4-part differential is shifted to the right, as when neutrophils are counted as monocytes.

Satisfying 4-part differentials are obtained if the neutrophil cluster is close to the neutrophil/monocyte separation in the LMNE Matrix (see fig 5). To optimize this positioning of the 4-part differential, an electrical setting has to be changed on the main board.

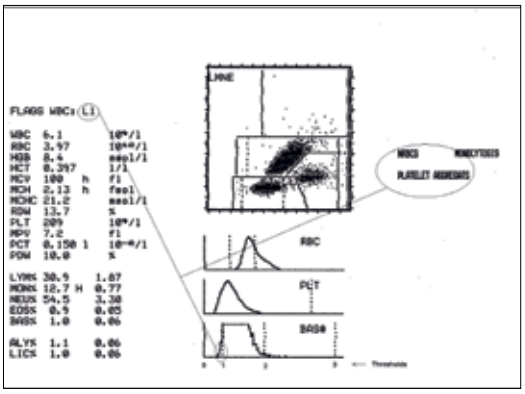

Fig. 5 LMNE matrix

The adjustment can be done with the R136 potentiometer.

1. Use fresh (max 8 hours) blood for this optimization.
2. Remove the left cover to get access the main board.
3. Locate the R136 potentiometer on the main board (see fig 6).
4. Record the original settings.
5. Turn clockwise to shift the clusters to the right and counterclockwise to shift the clusters to the left

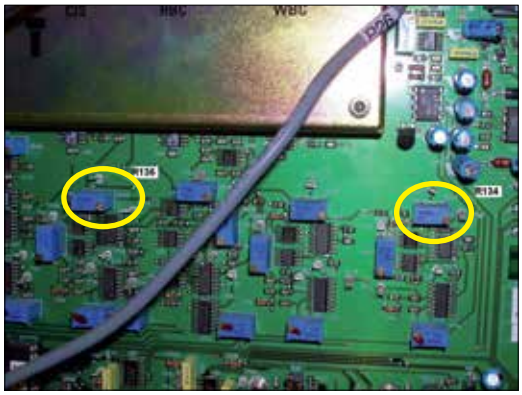

Fig. 6 Main board

ABX® Pentra® 60 Baso reagent – L1 flagging

White blood cells and basophils are measured in the same channel by means of the impedance technique. Differentiation between basophils and other leukocytes is obtained by means of J.T.Baker® CyMet™ APR Baso II.

The total number of leukocytes is represented by the total number of cells between threshold 1 and 3. Basophils are located after threshold 2 (see fig 5). Adjustment of the optimal positioning of the leukocyte peek differs per instrument. Shift of the leukocyte peak to the left, results in negative L1 flagging, causing NRBC / platelet aggregates alarms. Shift to the right of the leukocyte peak, results in a higher basophil count.

To lower L1 flags, optimization can be done. To optimize the positioning of the leukocyte peak, an electrical setting has to be changed on the main board. The adjustment can be done with the R134 potentiometer.

1. Use fresh (max 8 hours) blood for this optimization.

2. Remove the left cover to get access the main board.
3. Locate the R134 potentiometer on the main board (see fig 6).
4. Record the original settings.
5. Turn clockwise to shift the peak to the right and counterclockwise to shift the peak to the left.

ABX® Pentra® 80 – Barcode procedure

Pentra 80 requires barcode reading when new reagent bottles are connected. J.T.Baker® reagents for Pentra® 80 do not have an instrument accepted barcode on the label. The instrument requires the user to update reagent data manually.

1. Enter the analyzer screen, where all reagents are shown.
2. Double click on the reagent to be changed. The reagent replacement screen (fig 7) appears.
3. Enter the first 5 digits of the J.T.Baker® lot number in the field "Lot Nb".
4. Enter the volume in the field "level" (in ml).
5. Enter the expiration date.
6. Select √ to save the changes. The reagent will be primed automatically by the system.

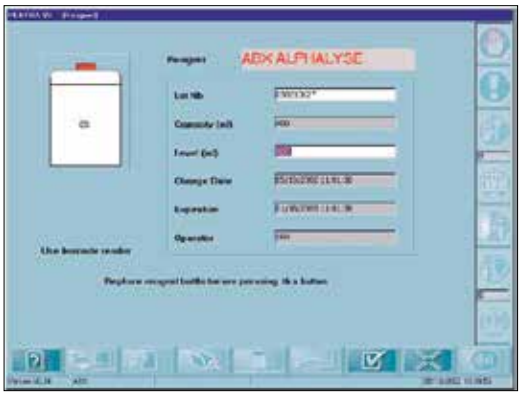

Fig. 7 Barcode procedure screen

ABX® Pentra® 60C, 60C+ – Barcode procedure

Pentra® 60C and 60C+ require barcode reading when new reagent bottles are connected. J.T.Baker® reagents for Pentra® 60C and 60C+ do not have an instrument accepted barcode on the label. The instrument requires the user to update reagent data manually.

1. Enter the analyzer screen, where all reagents are shown.
2. Double click on the reagent to be changed. The reagent replacement screen appears.
3. Replace the first two digits in the Lot Number box by a higher number. E.g. if the lot number in the box is 140103H1, enter 150103H1 (see table below).
4. The reagent will be primed automatically by the system.

Code	J.T.Baker® Product
H1	Diluid™ APR
Y2	CyMet™ APR CN Free
G1	CyMet™ APR EO
I2	CyMet™ APR Baso II
I1	DetectoTerge™

Note: The identification numbers per reagent are the last 2 digits of the above lot number.

ABX® Analyzers – Priming and Calibration

Priming of ABX® Pentra® 60

1. Run 3 hematology controls or 5 reference patient samples. Keep the values to use during calibration.
2. Remove the aspirating tubes from the Abbott® reagent cubitainers and bottles and put them in clean beakers.
3. Rinse the aspirating tubes with distilled or de-ionized water to avoid reagent contamination.
4. Press <Esc> to enter the main menu.
5. Select option <3. Reagents> from the main menu.
6. Select option <3. Prime>.
7. Select option <6. All reagents>.

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8. Remaining liquids are now removed from the tubes.
9. Place the 500 ml J.T.Baker® CyMet™ APR CN Free bottle at the left side in the reagent compartment.
10. Connect the J.T.Baker® reagents to the corresponding aspiration tubes.
11. Select option <3. Reagents> from the main menu.
12. Select option <1. Level/Change>.
13. Use the ↑ and ↓ keys to select the <Change> key.
14. Perform this procedure for all 5 reagents. The reagent levels will be updated to 100%.
15. Repeat 2 times steps 4-7, now with the reagents connected, to prime the J.T.Baker® reagents into the system.
16. Select option <Start Up> to perform a start-up.
17. Run the hematology controls or reference patient samples from step 1 again. Compare the values and check if any calibration is needed.

Note: When changing from cyanide containing to cyanide free reagents, a recalibration for the Hemoglobin is required.

Calibration of ABX® Pentra® 60

On the ABX® Pentra® 60 two calibration modes are available. An auto-calibration can be performed using a calibrator or a hematology control. In addition the coefficients can be changed manually.

Auto-calibration steps:

1. Select option <2. Calibration> from the main menu.
2. Select option <1. Auto-calibration>.
3. Change per parameter (WBC, RBC, HGB, HCT and PLT) the operator ID, lot number or expiration date, if necessary, by entering the <Target> field with the respective target values and select option <Enter>. After entering the values or when no changes are required press <Esc>. The calibration result chart is displayed.
4. Run the hematology control or calibrator at least 5 times.
5. Press <Esc> to accept the results. To manually include or exclude results from the statistical calculation, move the cursor to the result line and press < . > to obtain a single square.
6. Select option <Enter> to save the new coefficients or <Esc> to quit the calibration.
7. Select option <Enter> to print the new coefficients.
8. The calibration is completed. Select option <Enter> to quit the calibration chart table.
9. Run a hematology control in the normal measurement mode to verify calibration.

Note: Please refer to the operator manual for more detailed calibration information.

ABX® Pentra® 80, 60 – WBC startup and background failures

In case a high WBC background is measured after switching to J.T.Baker® reagents, next cleaning protocol can be used.

1. Fill a beaker with 500 ml J.T.Baker® DetectoTerge™.
2. Remove the aspirating tubes from the reagent cubitainers and bottles and put them in clean beakers.
3. Press <Esc> to enter the main menu.
4. Select option <3. Reagents> from the main menu.
5. Select option <3. Prime>.
6. Select option <6. All reagents>.
7. Repeat steps 3-6.
8. Put all aspirating tubes in the DetectoTerge™ solution.
9. Prime 2 times following the procedure in step 3-6.
10. Wait for at least 2 hours and remove all aspirating tubes from the DetectoTerge™ solution.
11. Prepare a beaker with 500 ml distilled water.
12. Prime 2 times following the procedure in steps 3-6.

13. Remove all aspirating tubes from the distilled water to prime the instrument with air.
14. Prime 2 times following the procedure in steps 3-6.
15. Reconnect all aspirating tubes to their corresponding reagent bottles.
16. Prime 2 times following the procedure in steps 3-6.
17. Perform a startup and background check. Repeat if necessary.

Priming of ABX® Micros®

1. Run 3 hematology controls or 5 reference patient samples. Keep the values to use during calibration.
2. Remove the aspirating tubes from the Abbott® reagent cubitainers and bottles and put them in clean beakers.
3. Rinse the aspirating tubes with distilled or de-ionized water to avoid reagent contamination.
4. Press ↑ and ↓ to select option <4. Service> from the main menu.
5. Select option <Enter> to confirm.
6. Select option <3. Prime> and select option <Enter>.
7. Select option <1. All reagents> and select option <Enter>.
8. Remaining liquids are now removed from the tubes.
9. Connect the J.T.Baker® reagents to the corresponding aspiration tubes.
10. Repeat step 3 twice, now with the reagents connected, to prime the J.T.Baker® reagents into the system.
11. Select option <Start Up> to perform a start-up.
12. Run the hematology controls or reference patient samples from step 1 again. Compare the values and check if any calibration is needed.

Note: When changing from cyanide containing to cyanide free reagents, a recalibration for the Hemoglobin is required.

Calibration of ABX® Micros®

1. Select option <3. Calibration> from the main menu.
2. Select option <2. Coefficients>.
3. Select option <1. Calibration Coefficients>.
4. Enter password, followed by <Enter>.
5. Calculate new calibration factors:

$$\text{new calibration factor} = \frac{\text{assigned value}}{\text{mean value}} \times \text{current calibration factor}$$

6. Select the parameter, which needs to be calibrated, by using ↓.
7. Enter the new calibration factor, followed by <Enter>. Continue to the next parameter with ↓.
8. Press <Esc> to exit the calibration menu. Press <Esc> to return to the main menu.

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The information contained herein has not been approved by HORIBA ABX SAS.
Always refer to the user manual provided with the equipment at issue.

Avantor Performance Materials™ Analyzers

BeneSphera™ Analyzers

Description	BeneSphera™ Product	Product Nr.	Pack Size
BeneSphera™ analyzers			
3-part differential	H34 3-Part Differential	2973	1 unit
3-part differential	H32 3-Part Differential	2983	1 unit
3-part differential for veterinary use	H32 VET 3-Part Differential	2977	1 unit

BeneSphera™ Analyzers – Reagents

Description	BeneSphera™ Product	Product Nr.	Pack Size
BeneSphera™ H34			
Diluent	Diluid™ BS34	2901.9010PC	10 L
Lyse	CyMet™ BS34 CN Free	2902.1000PE	1 L
Cleaner	HyClean BS34	2907.5000PC	5 L
Reagent Pack	Reagent Pack BS34 (Diluid™ BS34, CyMet™ BS34 CN Free, HyClean BS34)	2910	1 pack
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3503	4.5 ml
BeneSphera™ H32			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ BS3 CN Free	2982.0500PE	500 ml
Cleaner	DetectoTerge™ BS	2970.0900PE	900 ml
Emergency Cleaner	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3503	4.5 ml
BeneSphera™ H32 VET			
Diluent	Diluid™ BS3 VET	2974.9010PC	10 L
Lyse	CyMet™ BS3 VET CN Free	2975.0500PE	500 ml
Cleaner	DetectoTerge™ BS	2970.0900PE	900 ml
Emergency Cleaner	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control VET L/N/H	2904/2905/2906	2.5 ml, vial

Avantor Performance Materials™ Analyzers – Reagent Consumption

An indication of the consumption of reagents per test is shown in the table below. The actual consumption value can change due to necessary priming and cleaning steps.

Analyzer Type	J.T.Baker® Product	Consumption Per Test
BeneSphera™ H34 3-part Differential	Diluid™ BS34	5 ml
	CyMet™ BS34 CN Free	1 ml
	HyClean BS34	2 ml
BeneSphera™ H32 3-part Differential	Diluid™ III Diff	15.5 ml
	CyMet™ BS3 CN Free	0.6 ml
	DetectoTerge™ BS	1.2 ml
BeneSphera™ H32 VET 3-part Differential	Diluid™ BS3 VET	15.5 ml
	CyMet™ BS3 VET CN Free	0.4 - 0.7 ml
	DetectoTerge™ BS	1.2 ml

Avantor Performance Materials™ Analyzers – Priming and Calibration

Please refer to the separate user manuals of the BeneSphera™ H34, H32 and H32 VET 3-Part Differential Analyzers for information about priming and calibration.

Fig. 8 BeneSphera™ H32 3-Part Differential analyzer

AVL Analyzers

AVL Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
AVL 818, 816			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ ST1600/2000 CN Free	3759.5000	5 L
		3759.1000	1 L
Cleaner	ProClean™	3900	5 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml

AVL is manufactured by Roche Diagnostics Corporation.
The information contained herein has not been approved by Roche Diagnostics Corporation.
Always refer to the user manual provided with the equipment at issue.

Bayer® Analyzers

Bayer® Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
Bayer® ADVIA® 70			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ III Diff	3964	5 L
		3968	1 L
Cleaner	DetectoTerge™	3763	5 L
Sheath Fluid	Sheath D	3495.9010PC	10 L
Bayer® ADVIA® 60			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ Micro CN Free	3863.1000	1 L micros bottle
Cleaner	ProClean™	3768.1000	1 L micros bottle
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml
Bayer® ADVIA® 120			
Reagents not available			
Hematology Control	ADV-Diff Control	3684/3685/3686	3.5 ml

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The information contained herein has not been approved by Bayer Corporation.
Always refer to the user manual provided with the equipment at issue.

Beckman Coulter® Analyzers

Beckman Coulter® Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
Beckman Coulter® AcT 5™			
Diluent	Diluid™ APR	3476.9020PC	20 L
Lyse	CyMet™ APR CN Free	3417.0500PE	500 ml
Lyse for Eosinophils	CyMet™ APR EO	3478.1000PE	1 L
Lyse for Basophils	CyMet™ APR Baso II	3479.1000PE	1 L
Cleaner, on-line	DetectoTerge™	3766	1 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
Beckman Coulter® AcT Diff™, AcT Diff 2™			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ III Diff	3964	5 L
		3968	1 L
	CyMet™ III Diff CN Free	3511.5000	5 L
		3511.1000	1 L
Cleaner	ProClean™	3900	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml
Reagent Card	C Card AcT Diff	3793	For 1000 tests
Beckman Coulter® AcT 8™, AcT 10™			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ III Diff	3964	5 L
		3968	1 L
	CyMet™ III Diff CN Free	3511.5000	5 L
		3511.1000	1 L
Cleaner	ProClean™	3900	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
Reagent Card	C Card AcT Diff	3793	For 1000 tests
Beckman Coulter® STKS™, GenS™, LH780, LH750, LH500, HmX™, MaxM™			
Reagents not available			
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	5D Control L/N/H	3681/3682/3683	5 ml

Beckman Coulter® Analyzers – Cross List

An overview of comparable Beckman Coulter® brand and J.T.Baker® brand reagents is shown in the table below. When replacing Beckman Coulter® reagents with J.T.Baker® reagents, information about calibration can be found on the next pages.

Beckman Coulter® Product	Beckman Coulter® Nr.	J.T.Baker® Product	J.T.Baker® Nr.
Beckman Coulter® AcT 5 Diff™			
Diluent	8547169	Diluid™ APR	3476.9020PC
HGB Lyse	8547168	CyMet™ APR CN Free	3417.0500PE
Fix	8547171	CyMet™ APR EO	3478.1000PE
WBC Lyse	8547170	CyMet™ APR Baso II	3479.1000PE
Rinse	8547167	DetectoTerge™	3766
Beckman Coulter® AcT Diff (2)™			
AcT Diff™ Pack Reagent kit	8547134	Diluid™ III Diff	3963
		CyMet™ III Diff CN Free	3511.1000
AcT Rinse™	8547113	ProClean™	3900

Beckman Coulter® Analyzers – Calibration

Calibration of Beckman Coulter® AcT-Diff™

1. Run 3 hematology controls or 5 reference patient samples.
2. Take the current calibration factors from the memory of the instrument, using the following buttons:

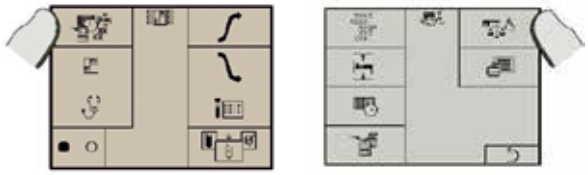

Fig. 9 Buttons to enter calibration factors

3. Calculate new calibration factors:

$$\text{new calibration factor} = \frac{\text{assigned value}}{\text{mean value}} \times \text{current calibration factor}$$

4. Enter new factors on the calibration factors screen

Fig. 10 Calibration screen

Cleaning Procedure

The cleaning procedure is advised to perform in case of error messages on the impedance aperture or WBC differential issues.

Procedure:

1. Mix in a 1L beaker 500ml distilled water and 500ml Hypochlorite 0.5%.
2. Connect this solution to the ProClean™ line (Clenz line).
3. Perform a shutdown procedure 3 times.
4. Wait for 15 minutes.
5. Connect a beaker with distilled water to the ProClean line.
6. Perform a shutdown procedure 3 times.
7. Perform a prime cycle for all reagents.
8. Perform a startup.

Beckman Coulter®, AcT Diff™, AcT Diff 2™, AcT8™, AcT10™, STKS™, GenS™, LH780, LH750, LH500, HmX™, MaxM™ and its subsidiary products are trademarks of Beckman Coulter, Inc. The information contained herein has not been approved by Beckman Coulter, Inc. Always refer to the user manual provided with the equipment at issue.

Diatron Analyzers

Diatron Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
Diatron Abacus Junior 5*			
Diluent	Diluid™ Abacus	3430.9020	20 L
		3430.9010	10 L
Lyse	CyMet™ Abacus CN Free	3431.1000	1 L
	CyMet™ Abacus EO*	3444.1000PE	1 L
	CyMet™ Abacus Baso	3445.1000PE	1 L
Cleaner	ProClean™ Abacus	3432.5000	5 L
		3432.1000PE	1 L
Hematology Control	SF-Diff Control L/N/H	3693/3694/3695	4.5 ml
Diatron Abacus			
Diluent	Diluid™ Abacus	3430.9020	20 L
		3430.9010	10 L
Lyse	CyMet™ Abacus CN Free	3431.1000	1 L
Cleaner	ProClean™ Abacus	3432.5000	5 L
		3432.1000PE	1 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3503	4.5 ml
Diatron Abacus Junior			
Diluent	Diluid™ Abacus	3430.9020	20 L
		3430.9010	10 L
Lyse	CyMet™ Abacus CN Free	3431.1000	1 L
Cleaner	ProClean™ Abacus	3432.5000	5 L
		3432.1000PE	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3503	4.5 ml
Diatron Abacus Junior VET			
Diluent	Diluid™ Abacus	3430.9020	20 L
		3430.9010	10 L
Lyse	CyMet™ Abacus CN Free	3431.1000	1 L
Cleaner	ProClean™ Abacus	3432.5000	5 L
		3432.1000PE	1 L
Rinse	Rinse VET	3438.5000PC	5 L
		3438.1000PE	1 L
Emergency Cleaner	Hypochlorite 0.5%	3917.5000	5 L

* Not for software version 2.17 and higher

Note: To achieve optimal performance with J.T.Baker® reagents on all mentioned Diatron analyzers, reagent code 2 should be selected in the software settings.

Diatron Analyzers – Reagent Consumption

An indication of the consumption of reagents per test is shown in the table below. The actual consumption value can change due to necessary priming and cleaning steps.

Analyzer Type	J.T.Baker® Product	Consumption Per Test
Diatron Abacus Junior 5	Diluid™ Abacus	40 ml
	CyMet™ Abacus CN Free	0.5 ml
	CyMet™ Abacus EO	2 ml
	CyMet™ Abacus Baso	3 ml
	ProClean™ Abacus	3 ml
Diatron Abacus	Diluid™ Abacus	30 ml
	CyMet™ Abacus CN Free	0.9 ml
	ProClean™ Abacus	0.6 ml

Diatron analyzers – Priming and Calibration

Priming of Diatron Abacus

1. Run 3 hematology controls or 5 reference patient samples. Keep the values to use during calibration.
2. Remove the aspirating tubes from the Diatron reagent cubitainers and bottles and put them in clean beakers.
3. Rinse the aspirating tubes with distilled or de-ionized water to avoid reagent contamination.
4. Select option <3. Maintenance>.
5. Select option <2. Priming>.
6. Select option <Prime diluent> to empty the system.
7. Connect J.T.Baker® Diluid™ Abacus to the corresponding aspiration tube.
8. Select option <Prime diluent> at least 3 times.
9. To prime J.T.Baker® CyMet™ Abacus CN Free and ProClean™ Abacus, proceed as described above for the Diluent.
10. Run the hematology controls or reference patient samples from step 1 again. Compare the values and check if any calibration is needed.

Note: All reagents can be primed in one cycle. Select option <Prime all>.

Calibration of Diatron Abacus

Two calibration options are available, see below information on auto-calibration and factorial/manual calibration.

Auto-calibration steps:

1. Select option <4. Calibration>.
2. Select option <3. Calibration settings>.
3. Select option <Calibration with three measures>. Go back to the Main menu.
4. Select option <4. Calibration> .
5. Select option <1. Calibrate>.
6. Define target values using the 3-Diff or 8-parameter assay value sheets. Select <Ok>. If a parameter should not be calibrated, keep the target value 0.
7. Select √ for calibration measurement.
8. Run 3 times a hematology control.
9. Select √ to accept results.
10. Select √ to accept the new calibration factors.

Diatron and its subsidiary products are manufactured by Diatron MI PLC.
The information contained herein has not been approved by Diatron MI PLC.
Always refer to the user manual provided with the equipment at issue.

Factorial/manual steps:

1. Select option <4. Calibration>.
2. Select option <3. Calibration settings>.
3. Select option <Factorial Calibration>. Go back to the main menu.
4. Select option <4. Calibration>.
5. Select option <1. Calibrate>.
6. Calculate new calibration factors:

$$\text{new calibration factor} = \frac{\text{assigned value}}{\text{mean value}} \times \text{current calibration factor}$$

7. Enter new calibration factors between 0.8 and 1.2. Select <Ok>.

Priming of Diatron Abacus Junior 5

1. Run 3 hematology controls or 5 reference patient samples. Keep the values to use during calibration.
2. Remove the aspirating tubes from the Diatron reagent cubitainers and bottles and put them in clean beakers.
3. Rinse the aspirating tubes with distilled or de-ionized water to avoid reagent contamination.
4. Select option <1. Maintenance>.
5. Select option <2. Priming>.
6. Select option <Prime diluent> to empty the system.
7. Connect J.T.Baker® Diluid™ Abacus to the corresponding aspiration tube.
8. Select option <Prime diluent> at least 3 times.
9. To prime other J.T.Baker® reagents, proceed as described above for the diluent.
10. Run the hematology controls or reference patient samples from step 1 again. Compare the values and check if any calibration is needed.

Note: All reagents can be primed in one cycle. Select option <Prime all>.

Calibration of Diatron Abacus Junior 5

Two calibration options are available, see below information on auto-calibration and factorial/manual calibration.

Auto-calibration steps:

1. Select option <2. Calibration>.
2. Select option <3. Calibration settings>.
3. Select option <5. Three measurements>. Go back to the Calibration menu.
4. Select option <1. Calibration>.
5. Define target values using the SF-Diff assay value sheets. If a parameter should not be calibrated, keep the target value 0.
6. Select <Ok> for calibration measurement.
7. Run 3 times a hematology control.
8. Select <Ok> to accept results.
9. Select <Ok> to accept the new calibration factors.

Factorial/manual steps:

1. Select option <2. Calibration>.
2. Select option <3. Calibration settings>.
3. Select option <3. Factorial calibration>.
4. Go back to the Calibration menu.
5. Select option <1. Calibration>.
6. Calculate new calibration factors:

$$\text{new calibration factor} = \frac{\text{assigned value}}{\text{mean value}} \times \text{current calibration factor}$$

7. Enter new calibration factors between 0.8 and 1.2. Select <Ok>.

Diatron and its subsidiary products are manufactured by Diatron MI PLC.
The information contained herein has not been approved by Diatron MI PLC.
Always refer to the user manual provided with the equipment at issue.

Drew Analyzers

Drew Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
Drew Excell 22			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ III Diff	3964	5 L
		3968	1 L
Cleaner	DetectoTerge™	3763	5 L
Sheath Fluid	Sheath D	3495.9010PC	10 L
Drew D3			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ III Diff	3964	5 L
		3968	1 L
Cleaner	ProClean™	3900	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite NR	3941.5000PC	5 L
		3941.1000PE	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml
Drew Excell 18 (BT2100)			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ III Diff	3964	5 L
		3968	1 L
	CyMet™ III Diff CN Free	3511.5000	5 L
		3511.1000	1 L
Cleaner	ProClean™	3900	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml

Drew is manufactured by Drew Scientific, Ltd.
The information contained herein has not been approved by Drew Scientific, Ltd.
Always refer to the user manual provided with the equipment at issue.

Drew Analyzers– Reagent Consumption

An indication of the consumption of reagents per test is shown in the table below. The actual consumption value can change due to necessary priming and cleaning steps.

Analyzer Type	J.T.Baker® Product	Consumption Per Test
Drew Excell 22	Diluid™ III Diff	11 ml
	CyMet™ III Diff	0.8 ml
	Sheath D	2 ml
Drew D3	Diluid™ III Diff	12.8 ml
	CyMet™ III Diff	0.5 ml
	ProClean™	0.3 ml

Drew is manufactured by Drew Scientific, Ltd.
The information contained herein has not been approved by Drew Scientific, Ltd.
Always refer to the user manual provided with the equipment at issue.

Erma Analyzers

Erma Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
Erma PCE-210			
Diluent	Diluid™ ERMA	3459.9020	20 L
Lyse	CyMet™ ERMA III Diff	3416.0500	500 ml
Cleaner	ProClean™	3900	5 L
Emergency Cleaner	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml
Erma PCE-170			
Diluent	Diluid™ ERMA	3459.9020	20 L
Lyse	Lyzerglobin™ PCE	3771	10 x 10 ml
Cleaner	ProClean™	3900	5 L
Emergency Cleaner	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml

Erma Analyzers – Cross List

An overview of comparable Erma brand and J.T.Baker® brand reagents is shown in the table below.

Erma Product	J.T.Baker® Product	J.T.Baker® Nr.
PCE-210		
Diluent solution	Diluid™ ERMA	3459.9020
Hemolysis	CyMet™ ERMA III Diff	3416.0500
Cleaner solution	ProClean™	3900
	Hypochlorite 0.5%	3917
PCE-170		
Diluent solution	Diluid™ ERMA	3459.9020
Hemolysis PCE	Lyzerglobin™ PCE	3771
Cleaner solution	ProClean™	3900
	Hypochlorite 0.5%	3917

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The information contained herein has not been approved by Erma, Inc.
Always refer to the user manual provided with the equipment at issue.

Erma Analyzers – Reagent Consumption

An indication of the consumption of reagents per test is shown in the table below. The actual consumption value can change due to necessary priming and cleaning steps.

Analyzer Type	J.T.Baker® Product	Consumption Per Test
Erma PCE-210	Diluid™ ERMA	29 ml
	CyMet™ ERMA III Diff	0.7 ml

Erma and its subsidiary products are manufactured by Erma, Inc.
The information contained herein has not been approved by Erma, Inc.
Always refer to the user manual provided with the equipment at issue.

Hospitex Analyzers

Hospitex Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
Hospitex Hemascreen 18			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ III Diff	3964	5 L
		3968	1 L
	CyMet™ III Diff CN Free	3511.5000	5 L
		3511.1000	1 L
Cleaner	DetectoTerge™	3763	5 L
Rinse	Blanking Solution ST1600/2000	3947	20 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L

Hospitex Analyzers – Cross List

An overview of comparable Hospitex brand and J.T.Baker® brand reagents is shown in the table below.

Hospitex Product	Hospitex Nr.	J.T.Baker® Product	J.T.Baker® Nr.
Hemascreen 18			
Differential isotonic solution	70010070	Diluid™ III Diff	3963
Differential lysing solution	70010075	CyMet™ III Diff	3964/3968
		CyMet™ III Diff CN Free	3511.5000/3511.1000
DetectoTerge™	70010085	DetectoTerge™	3763

Hospitex Analyzers – Reagent Consumption

An indication of the consumption of reagents per test is shown in the table below. The actual consumption value can change due to necessary priming and cleaning steps.

Analyzer Type	J.T.Baker® Product	Consumption Per Test
Hospitex Hemascreen 18	Diluid™ III Diff	10 ml
	CyMet™ III Diff (CN Free)	0.6 ml

Hospitex and its subsidiary products are manufactured by Hospitex Diagnostics .
The information contained herein has not been approved by Hospitex Diagnostics.
Always refer to the user manual provided with the equipment at issue.

HTI® Analyzers

HTI® Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
HTI® micros CC18			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ III Diff	3964	5 L
		3968	1 L
Cleaner	ProClean™	3900	5 L
Emergency Cleaner	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml

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The information contained herein has not been approved by High Technology, Inc.
Always refer to the user manual provided with the equipment at issue.

MDC Analyzers

MDC Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
MDC AL Medicon 4000, AL series 902-18, 902-20, 300-916			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ AL	3499.1000-N	1 L
Cleaner	Blanking Solution HgB	3507.9020	20 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L

MDC and its subsidiary products are manufactured by AL Systeme.
The information contained herein has not been approved by AL Systeme.
Always refer to the user manual provided with the equipment at issue.

Medonic Analyzers

Medonic Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
Medonic CA620-20, CA620-16, CA530-16			
Diluent	Diluid™ 610	3969	20 L
Lyse	CyMet™ 610 CN Free	3970	10 L
		3977	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml
Medonic CA610, CA600, CA570			
Diluent	Diluid™ 610	3969	20 L
Lyse	CyMet™ 610 CN Free	3970	10 L
		3977	5 L
Cleaner	DetectoTerge™	3763	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
Hematology Control	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml
Medonic CA580, CA590			
Diluent	Diluid™ 590	3954	20 L
Lyse	CyMet™ 590 CN Free	3971	5 L
Cleaner	DetectoTerge™	3763	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
Medonic CA530-9 mimer			
Diluent	Diluid™ 590	3954	20 L
Lyse	CyMet™ 590 CN Free	3971	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
Medonic VET			
Diluent	Diluid™ CA VET	2980.9010PC	10 L
Lyse	CyMet™ CA VET	2981.5000PC	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L

Medonic Analyzers – Reagent Consumption

An indication of the consumption of reagents per test is shown in the table below. The actual consumption value can change due to necessary priming and cleaning steps.

Analyzer Type	J.T.Baker® Product	Consumption Per Test
Medonic CA610/600 series	Diluid™ 610	45 ml
	CyMet™ 610 CN Free	5 ml
	DetectoTerge™	1.5 ml
Medonic CA530-16	Diluid™ 610	19 ml
	CyMet™ 610 CN Free	9 ml

Medonic and its subsidiary products are manufactured by Boule Medical AB.
The information contained herein has not been approved by Boule Medical AB.
Always refer to the user manual provided with the equipment at issue.

Melet-Schloesing Analyzers

Melet-Schloesing Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
Melet-Schloesing MS9®, MS4®			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ III Diff	3964	5 L
		3968	1 L
Cleaner	Blanking Solution ST 1600/2000	3947	20 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Melet-Schloesing MS8®, MS8 VET®			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ III Diff	3964	5 L
		3968	1 L
	CyMet™ III Diff CN Free	3511.5000	5 L
		3511.1000	1 L
Cleaner	DetectoTerge™	3763	5 L
	ProClean™	3900	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L

Note: Reagent Card for MS4 and MS9 is not available via Avantor Performance Materials B.V.

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Mindray® Analyzers

Mindray® Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
Mindray® BC-5380, BC-5300			
Diluent	Diluid™ M5	3419.9020PC	20 L
Lyse	CyMet™ MD(I) 53	2984.1000PE	1 L
	CyMet™ MD(II)	3488.0500PE	500 ml
	CyMet™ LH 53	2985.1000PE	1 L
Cleaner	ProClean™ MX5	3498.1000PE	1 L
Hematology Control	BC-Diff 5 Control L/N/H	3613/3614/3615	3.0 ml
Mindray® BC-3200, BC-3000 Plus, BC-2800			
Diluent	Diluid™ Mindray	3439.9020PC	20 L
Lyse	CyMet™ Mindray	3441.0500PE	500 ml
	CyMet™ Mindray CN Free	3440.0500PE	500 ml
Rinse	Rinse Mindray	3442.5000PE	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml
Mindray® BC-2300, BC-2000			
Diluent	Diluid™ Mindray	3439.9020PC	20 L
Lyse	CyMet™ Mindray (for BC-2300)	3441.0500PE	500 ml
	Lyzerglobin™ PCE (for BC-2000)	3771	10 x 10 ml
Cleaner	ProClean™ Extra	3862.5000	5 L
		3862.1000	1 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml

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Mindray® Analyzers – Cross List

An overview of comparable Mindray® brand and J.T.Baker® brand reagents is shown in the table below. When replacing Mindray® reagents with J.T.Baker® reagents, information about priming and calibration can be found on the next pages.

Mindray® Product	J.T.Baker® Product	J.T.Baker® Nr.
Mindray® BC-3000 Plus		
M-30 Diluent	Diluid™ Mindray	3439.9020PC
M-30 CFL Lyse	CyMet™ Mindray	3441.0500PE
	CyMet™ Mindray CN Free	3440.0500PE
M-30 Rinse	Rinse Mindray	3442.5000PE
M-30 E-Z Cleanser	ProClean™ Plus	3901
M-30 Probe Cleanser	Hypochlorite 0.5%	3917

Mindray® Analyzers – Priming and Calibration

Priming of Mindray® BC-3000 Plus

1. Run 3 hematology controls or 5 reference patient samples. Keep the values to use during calibration.
2. Remove the aspirating tubes from the Mindray® reagent cubitainers and bottles and put them in clean beakers.
3. Rinse the aspirating tubes with distilled or de-ionized water to avoid reagent contamination.
4. Select option <Service> from the main menu.
5. Select option <Maintenance> and select <Enter>.
6. Select option <Diluent prime> followed by <Enter> to empty the tube.
7. Move the sensor up to stop the reagent alarm. Connect J.T.Baker® Diluid™ Mindray to the corresponding aspiration tube.
8. Select option <Diluent prime> followed by <Enter>.
9. To prime the other J.T.Baker® reagents, proceed as described above for the Diluent.
10. Select option <Empty baths>, followed by <Enter> to empty the diluent from the WBC and RBC baths. Press <Enter> to prime the Diluent into the baths.
11. Perform at least 5 blank counts.
12. Review the displayed data. Acceptable values are as follows:

Parameter	Background
WBC	< 0.5 x 10^9/L
RBC	< 0.05 x 10^{12}/L
HGB	< 0.2 g/dL
PLT	< 10 x 10^9/L

13. When acceptable background values are displayed the priming is successful. If not, repeat step 6-9.
14. Run the hematology controls or reference patient samples from step 1 again. Compare the values and check if any calibration is needed.

Calibration of Mindray® BC-3000 Plus

Two calibration options are available. Follow the manual calibration process as outlined below. For automatic calibration or more information, consult the Mindray® BC-3000 Plus user manual.

Manual calibration steps:

1. Select option <Calibration> from the Main menu.
2. Select option <Manual calibration> and select <Enter> to show the calibration factors.
3. Calculate new calibration factors:

$$\text{new calibration factor} = \frac{\text{reference value}}{\text{mean value}} \times \text{current calibration factor}$$

4. Enter new factors on the calibration factors screen and confirm.

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Nihon Kohden® Analyzers

Nihon Kohden® Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
Nihon Kohden® Celltac™ F MEK-8222K, Celltac ES MEK-7300, Celltac E MEK-7222K			
Diluent	Diluid™ NR	3483.9020PC	20 L
Lyse	CyMet™ NR III	3484.1000PE	1 L
	CyMet™ NR III CN Free	3486.1000PE	1 L
	CyMet™ NR V	3485.1000PE	1 L
Cleaner	DetectoTerge™	3763	5 L
	Hypochlorite NR	3941.5000PC	5 L
		3941.1000PE	1 L
Emergency Cleaner	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	CD-Diff Control L/N/H	3452/3453/3454	3.0 ml
Nihon Kohden® Celltac™ α MEK-8118K + QA-810V			
Diluent	Diluid™ NR	3483.9020PC	20 L
Lyse	CyMet™ NR III	3484.1000PE	1 L
	CyMet™ NR V	3485.1000PE	1 L
Cleaner	DetectoTerge™	3763	5 L
	Hypochlorite NR	3941.5000PC	5 L
		3941.1000PE	1 L
Emergency Cleaner	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	CD-Diff Control L/N/H	3452/3453/3454	3.0 ml
Nihon Kohden® Celltac™ α MEK-8118K, MEK-6450, MEK-6420, MEK-6410, MEK-6400, MEK-6108 + QA-610			
Diluent	Diluid™ NR	3483.9020PC	20 L
Lyse	CyMet™ NR III CN Free	3486.1000PE	1 L
Cleaner	DetectoTerge™	3763	5 L
	Hypochlorite NR	3941.5000PC	5 L
		3941.1000PE	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml
Nihon Kohden® Celltac™ α MEK-6318K			
Diluent	Diluid™ NR	3483.9020PC	20 L
Lyse	CyMet™ NR III	3484.1000PE	1 L
	CyMet™ NR III CN Free	3486.1000PE	1 L
Cleaner	DetectoTerge™	3763	5 L
	Hypochlorite NR	3941.5000PC	5 L
		3941.1000PE	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml

Nihon Kohden® Analyzers – Cross List

An overview of comparable Nihon Kohden® brand and J.T.Baker® brand reagents is shown in the table below. When replacing Nihon Kohden® reagents with J.T.Baker® reagents, information about priming and calibration can be found on the next pages.

Nihon Kohden® Product	Nihon Kohden® Nr.	J.T.Baker® Product	J.T.Baker® Nr.
All series			
Diluent Isotonac 3™	T436D	Diluid™ NR	3483.9020PC
Hemolynac 3™	T489	CyMet™ NR III	3484.1000PE
Hemolynac 3N CN Free™	T498	CyMet™ NR III CN Free	3486.1000PE
Hemolynac 5™	T496	CyMet™ NR V	3485.1000PE
Cleanac 3™	T438D	Hypochlorite NR	3941.5000PC
Cleanac™	T438	DetectoTerge™	3763

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Always refer to the user manual provided with the equipment at issue.

Nihon Kohden® Analyzers – Priming and Calibration

Priming of Nihon Kohden® Celltac™ F MEK-8222K

1. Run 3 hematology controls or 5 reference patient samples. Keep the values to use during calibration.
2. Remove the aspirating tubes from the Nihon Kohden® reagent cubitainers and bottles and put them in clean beakers.
3. Rinse the aspirating tubes with distilled or de-ionized water to avoid reagent contamination.
4. Select option <Menu>.
5. Select option <Other Operations>.
6. Select option <Drain all>.
7. Select option <Yes> key to drain all reagents. Wait till the analyzer is in the "Ready" mode.
8. Connect the J.T.Baker® reagents to the aspiration tubes.
9. Select option <Menu>.
10. Select option <Other Operations>.
11. Select option <Prime on installation>.
12. Select option <Yes> to prime all reagents. Wait till the analyzer is in the "Ready" mode.
13. Perform at least 3 blank counts.
14. Run the hematology controls or reference patient samples from step 1 again. Compare the values and check if any calibration is needed.

Calibration of Nihon Kohden® Celltac™ F MEK-8222K

1. Select option <Menu>.
2. Select option <Calibration>.
3. Select option <Closed> or select option <Manual> or select option <Capillary> to start calibration in the desired mode.
4. Run 3 hematology controls, normal level.
5. Calculate new calibration factors:

$$\text{new calibration factor} = \frac{\text{reference value}}{\text{mean value}} \times \text{current calibration factor}$$

6. Select option <Calibration>.
7. Select the parameter to be calibrated and enter new calibration factors between 100 and 2000. Continue to the next parameter using key ↓.
8. Select option <Enter> to save.
9. Select option <OK> to return to the Calibration screen.

Priming of Nihon Kohden® Celltac™ α MEK-8118K

1. Run 3 hematology controls or 5 reference patient samples. Keep the values to use during calibration.
2. Remove the aspirating tubes from the Nihon Kohden® reagent cubitainers and bottles and put them in clean beakers.
3. Rinse the aspirating tubes with distilled or de-ionized water to avoid reagent contamination.
4. Connect J.T.Baker® Diluid™ NR to the aspiration tube.
5. Select option <Function Check> and select option <Priming>.
6. Select option <Clean> and select option <Meas.Continue> to aspirate air in the lyse and detergent tubes.
7. Connect J.T.Baker® CyMet™ NR III CN Free and DetectoTerge™ to the aspiration tubes.
8. Select option <Clean> and select option <Meas.Continue> to start priming. Repeat 5 times.
9. Run the hematology controls or reference patient samples from step 1 again. Compare the values and check if any calibration is needed.

Calibration of Nihon Kohden® Celltac™ α MEK-8118K

1. Select option <Calibration>.
2. Run 3 hematology controls and calculate new calibration factors:

$$\text{new calibration factor} = \frac{\text{reference value}}{\text{mean value}} \times \text{current calibration factor}$$

3. Select the parameter to be calibrated and enter new calibration factors. Select option < > to change other parameters.
4. Select option <Enter> to save.
5. Select option <Quit> and select option <Menu> to return to the Menu screen.

Priming of Nihon Kohden® Celltac™ α MEK-6318K

1. Run 3 hematology controls or 5 reference patient samples. Keep the values to use during calibration.
2. Remove the aspirating tubes from the Nihon Kohden® reagent cubitainers and bottles and put them in clean beakers.
3. Rinse the aspirating tubes with distilled or de-ionized water to avoid reagent contamination.
4. Select option <Menu>.
5. Select option <Other>.
6. Select option <Drain all>.
7. Select option <Yes> key to drain all reagents. Wait till the message "press the Clean key" appears.
8. Connect the J.T.Baker® reagents to the aspiration tubes.
9. Select option <Clean> to prime and drain. Wait till the next messages appear: "No diluent, No lysing reagent, No detergent".
10. Select option <Clean> to complete the priming. Priming is completed when the message "Ready" appears.
11. Perform at least 3 blank counts.
12. Run the hematology controls or reference patient samples from step 1 again. Compare the values and check if any calibration is needed.

Note: When changing from cyanide containing to cyanide free reagents, a recalibration for the Hemoglobin is required.

Calibration of Nihon Kohden® Celltac™ α MEK-6318K

1. Select option <Menu>.
2. Select option <Calibration>.
3. Select option <Norm> for calibration in normal mode. To switch to the capillary mode select option <Cap>.
4. Run 3 hematology controls, normal level. The measurement result appears on the Cal result screen.
5. Calculate new calibration factors:

$$\text{new calibration factor} = \frac{\text{reference value}}{\text{mean value}} \times \text{current calibration factor}$$

6. Select option <Calibration>. The Cal (Normal) screen appears. The latest measured values and previous calibration coefficients are displayed.
7. Select the parameter to be calibrated and enter new calibration factors between 100 and 2000. Select option <Next> to change other parameters.
8. Select option <Enter> to save.
9. Select option <OK> to return to the Menu screen.

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Orphee Analyzers

Orphee Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
Orphee Mythic™ 22			
Diluent	Diluid™ 22	2990.9010PC	10 L
Lyse	CyMet™ 22 CN Free	2986.0500PE	500 ml
Cleaner	ProClean™	3768.1000	1 L micros bottle
Orphee Mythic™ 18			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ III Diff CN Free	3511.5000	5 L
		3511.1000	1 L
Cleaner	ProClean™	3900	5 L
Hematology Control	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml

Orphee Analyzers – Cross List

An overview of comparable Orphee brand and J.T.Baker® brand reagents is shown in the table below. When replacing Orphee reagents with J.T.Baker® reagents, information about priming and calibration can be found on the next pages.

Orphee Product	Orphee Nr.	J.T.Baker® Product	J.T.Baker® Nr.
Orphee Mythic™ 22			
Diluent for Mythic™ 22	HM22-003	Diluid™ 22	2990.9010PC
Onlyone Lyse	HM22-002	CyMet™ 22 CN Free	2986.0500PE
Cleaner for Mythic™ 22	HM22-001	ProClean™	3768.1000
Orphee Mythic™ 18			
Diluent for Mythic™ 18	HM18-009	Diluid™ III Diff	3963
Cyanide Free Lytic Solution for Mythic™ 18	HM18-008	CyMet™ III Diff CN Free	3511.1000
Enzymatic Cleaning Solution for Mythic™ 18	HM18-007	ProClean™	3900

Orphee Analyzers – Reagent Consumption

An indication of the consumption of reagents per test is shown in the table below. The actual consumption value can change due to necessary priming and cleaning steps

Analyzer Type	J.T.Baker® Product	Consumption Per Test
Orphee Mythic™ 22	Diluid™ 22	21 ml
	CyMet™ 22 CN Free	0.9 ml
	ProClean™	0.5 ml
Orphee Mythic™ 18	Diluid™ III Diff	12.8 ml
	CyMet™ III Diff CN Free	0.3 ml
	ProClean™	0.4 ml

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Orphee Analyzers – Priming and Calibration

Priming of Orphee Mythic™ 22

1. Run 3 hematology controls or 5 reference patient samples. Keep the values to use during calibration.
2. Remove the aspirating tubes from the Orphee reagent cubitainers and bottles and put them in clean beakers.
3. Rinse the aspirating tubes with distilled or de-ionized water to avoid reagent contamination.
4. In the Main menu, select option <Reagents>.
5. Select option <Prime all> to remove remaining liquids.
6. Place the J.T. Baker® CyMet™ 22 CN Free and the ProClean™ in the reagent compartment.
7. Place the J.T. Baker® Diluid™ 22 at the same level as the analyzer, to avoid aspiration of air bubbles.
8. Connect the J.T. Baker® reagents to the corresponding aspiration tubes.
9. Select option <Diluent> and enter lot number, the expiry date and the container capacity.
10. Select option <Change reagent> to validate the new entry.
11. Select option <Prime diluent> and select option <Valid>.
12. To prime the other reagents, proceed as described above for the diluent.
13. In the Main menu, select option <Start up>. When a fault alarm is shown, repeat <Start up>.
14. Run the hematology controls or reference patient samples from step 1 again. Compare the values and check if any calibration is needed.

Calibration of Orphee Mythic™ 22

Two calibration options are available, see below information on auto-calibration and manual calibration. For more information, refer to the Mythic™ 22 User Manual.

Auto-calibration steps:

1. Select option <Calibration> in the Main menu to get information about the last calibrator / control used.
2. Select option <Change> to enter the required data of the calibrator / control to be used.
3. Select option <Result> and <Tools> to show/print the calibration result chart.
4. Run the hematology control or calibrator at least 5 times.
5. Select option <Sel> to manually include or exclude results from the statistical calculation.
6. Default all parameters are selected to be calibrated. Select option <Calibration>.

Manual calibration steps:

1. Login into the advanced setup menu with default password '123'.
2. Select option <Calibration factors> to enter new calibration factors.
3. Calculate new calibration factors:

$$\text{new calibration factor} = \frac{\text{reference value}}{\text{mean value}} \times \text{current calibration factor}$$

4. Select option <Valid> to accept the new factors or select option <Esc> to exit without any modifications.

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Seac Analyzers

Seac Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
SEAC H20 Genius			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ H20	3853.1000	1 L
Cleaner	ProClean™	3900	5 L
	DetectoTerge™	3763	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	CD-Diff Control L/N/H	3452/3453/3454	3.0 ml
SEAC H12			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ H12 CN Free	3841.1000PE	1 L
Cleaner	ProClean™	3900	5 L
	DetectoTerge™	3763	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
SEAC H8			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ III Diff	3964	5 L
		3968	1 L
Cleaner	ProClean™	3900	5 L
	DetectoTerge™	3763	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml

Seac Analyzers – Cross List

An overview of comparable Seac brand and J.T.Baker® brand reagents is shown in the table below.

SEAC Product	J.T.Baker® Product	J.T.Baker® Nr.
SEAC H12		
Isotonic solution 3	Diluid™ III Diff	3963
Lyse 3	CyMet™ H12 CN Free	3841.1000PE
Detergent	ProClean™	3900
	DetectoTerge™	3763
SEAC H8		
Isotonic solution 3	Diluid™ III Diff	3963
Lyse 3	CyMet™ III Diff	3968
Detergent	ProClean™	3900
	DetectoTerge™	3763

Seac Analyzers – Reagent Consumption

An indication of the consumption of reagents per test is shown in the table below. The actual consumption value can change due to necessary priming and cleaning steps. .

Analyzer Type	J.T.Baker® Product	Consumption Per Test
SEAC H12	Diluid™ III Diff	40 ml
	CyMet™ H12 CN Free	1 ml
	DetectoTerge™/ProClean™	40 ml (for daily shutdown)
SEAC H8	Diluid™ III Diff	40 ml
	CyMet™ III Diff	1 ml
	DetectoTerge™/ProClean™	40 ml (for daily shutdown)

Seac and its subsidiary products are manufactured by RADIM Spa.
The information contained herein has not been approved by RADIM Spa.
Always refer to the user manual provided with the equipment at issue.

Swelab® Analyzers

Swelab® Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
Swelab® AC970eo+, AC920eo+			
Diluent	Diluid™ AC900	3996	20 L
Lyse	CN Free Lyse Diff AC900	3998	5 L
Lyse for Eosinophils	EO Reagent Autocounter	3842.1000	1 L
Cleaner	DetectoTerge™	3763	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
Swelab® AC910, AC900			
Diluent	Diluid™ AC900	3996	20 L
Lyse	CN Free Lyse Diff AC900	3998	5 L
Emergency Cleaner	ProClean™ Plus	3901	100 ml
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml

Swelab® Analyzers – Cross List

An overview of comparable Swelab® brand and J.T.Baker® brand reagents is shown in the table below

Swelab® Product	Swelab® Nr.	J.T.Baker® Product	J.T.Baker® Nr.
Swelab® AC900 series			
AutoTon™	1504103	Diluid™ AC900	3996
AutoLyze™	1504114	CN Free Lyse Diff AC900	3998
AutoTergent™	1504105	DetectoTerge™	3763

Swelab® Analyzers – Reagent Consumption

An indication of the consumption of reagents per test is shown in the table below. The actual consumption value can change due to necessary priming and cleaning steps.

Analyzer Type	J.T.Baker® Product	Consumption Per Test
Swelab® AC910	Diluid™ AC900	16 ml
	CN Free Lyse Diff AC900	4 ml

Swelab® and its subsidiary products are trademarks of Boule Medical AB.
The information contained herein has not been approved by Boule Medical AB.
Always refer to the user manual provided with the equipment at issue.

Sysmex® Analyzers

Sysmex® Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
Sysmex ® SF3000			
Diluent	Diluid™ 100 Plus	3961	20 L
Lyse	CyMet™ 1000 CN Free	3744	5 L
	CyMet™ SF Diff 1	3481.5000PC	5 L
	CyMet™ SF Diff 2	3482.0500PE	500 ml
Lyse for Basophils	CyMet™ SF Baso	3480.5000PC	5 L
Cleaner	Hypochlorite NR	3941.1000PE	1 L
Hematology Control	SF-Diff Control L/N/H	3693/3694/3695	4.5 ml
Sysmex® K4500			
Diluent	Diluid™ 100 Plus	3961	20 L
Lyse	CyMet™ 4500 CN Free	3773.5000PC	5 L
Emergency Cleaner	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	K-Diff Control L/N/H	3455/3456/3457	2.5 ml
Sysmex® K1000			
Diluent	Diluid™ 100 Plus	3961	20 L
Lyse	CyMet™ 1000 CN Free	3744	5 L
Emergency Cleaner	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	K-Diff Control L/N/H	3455/3456/3457	2.5 ml
Sysmex® KX21, KX21-N			
Diluent	Diluid™ 100 Plus	3961	20 L
Lyse	CyMet™ KX CN Free	3425.0500	500 ml
Emergency Cleaner	Hypochlorite 0.5%	3917.5000	5 L
		3917	1 L
Hematology Control	8-Parameter Control L/N/H	3427/3428/3429	2.5 ml, vial
		3463/3464/3465	2.5 ml
		3701/3702/3703	4.5 ml
	K-Diff Control L/N/H	3455/3456/3457	2.5 ml
Sysmex® XE2100, XT2000i, XT1800i, XS1000i			
Reagents not available			
Hematology Control	XE-Diff Control L/N/H	3731/3732/3733	4.5 ml

Sysmex® and its subsidiary products are trademarks Sysmex Corporation.
The information contained herein has not been approved by Sysmex Corporation.
Always refer to the user manual provided with the equipment at issue.

Sysmex® Analyzers – Cross List

An overview of comparable Sysmex® brand and J.T.Baker® brand reagents is shown in the table below. When replacing Sysmex® reagents with J.T.Baker® reagents, information about priming and calibration can be found on the next pages.

Sysmex® Product	J.T.Baker Product®	J.T.Baker® Nr.
Sysmex® SF3000		
Cellpack™	Diluid™ 100 Plus	3961
Stromatolyser™-3WP	CyMet™ 1000 CN Free	3744
Stromatolyser™-FD-I	CyMet™ SF Diff 1	3481.5000PC
Stromatolyser™-FD-II	CyMet™ SF Diff 2	3482.0500PE
Stromatolyser™-FB	CyMet™ SF Baso	3480.5000PC
Sysmex® K-series		
Cellpack™	Diluid™ 100 Plus	3961
Sulfolyser™	CyMet™ 1000 CN Free	3744
	CyMet™ 4500 CN Free	3773.5000PC
Stromatolyser™ WH	CyMet™ KX CN Free	3425.0500
Cellclean™	Hypochlorite 0.5%	3917

Sysmex® Analyzers – Reagent Consumption

An indication of the consumption of reagents per test is shown in the table below. The actual consumption value can change due to necessary priming and cleaning steps.

Analyzer Type	J.T.Baker® Product	Consumption Per Test
Sysmex® K4500	Diluid™ 100 Plus	30 ml
	CyMet™ 4500 CN Free	2 ml
Sysmex® K1000	Diluid™ 100 Plus	30 ml
	CyMet™ 1000 CN Free	2 ml
Sysmex® KX21	Diluid™ 100 Plus	34 ml
	CyMet™ KX CN Free	1 ml

Sysmex® Analyzers – Priming and Calibration

Priming of Sysmex® KX21

1. Run 3 hematology controls or 5 reference patient samples. Keep the values to use during calibration.
2. Remove the aspirating tubes from the Sysmex® reagent cubitainers and bottles and put them in clean beakers.
3. Rinse the aspirating tubes with distilled or de-ionized water to avoid reagent contamination.
4. Select option <Select> and select option <5. Auto Rinse>. Wait till the instrument will give a fault alarm.
5. Connect the J.T.Baker® reagents to the corresponding aspiration tubes.
6. Select option <5. Auto Rinse> to prime the reagents and repeat 4 times.
7. Run the hematology controls or reference patient samples from step 1 again. Compare the values and check if any calibration is needed.

Calibration of Sysmex® KX21

1. Select option <Select>.
2. Select option <3. Calibration>.

3. Select option <2. Manual Cal.> to change calibration factors for hemoglobin or hematocrit.
4. Calculate new calibration factors for hemoglobin or hematocrit:

$$\text{new calibration factor} = \frac{\text{reference value}}{\text{mean value}} \times \text{current calibration factor}$$

5. Select the parameter to be calibrated and enter new calibration factors. The new value can differ maximum 5%, repeat when a higher differentiation is required.
6. Select option <Enter> to save.
7. Select option <Select>, select option <Yes> and select option <Enter>.
8. Select option <Select> to print the new calibration factors.
9. Press <C9.0> to enter the service mode for the calibration of the other parameters.
10. Select option <Select>.
11. Select option <9. Service>.
12. Select option <3. Settings>.
13. Select option <2. Change>.
14. Select option <1. Calibration>.
15. Calculate new calibration factors for the other parameters:

$$\text{new calibration factor} = \frac{\text{reference value}}{\text{mean value}} \times \text{current calibration factor}$$

16. Select the parameter to be calibrated and enter new calibration factors. Continue to the next parameter using key ↓.
17. Put the cursor on the bottom line and use key ↓ to show the parameters to be changed.
18. Select option <Set> to save the calibration factors and return to the "Ready" mode.

Sysmex® KX21 – WBC startup and background failures

If a high WBC background is measured after switching to J.T.Baker® reagents, then use the next cleaning protocol.

1. Prepare a solution with 500 ml J.T.Baker® Hypochlorite 0.5% and 500 ml distilled water.
2. Remove the aspirating tube from the diluent cubitainer and connect to the hypochlorite solution.
3. Select option <Select> and select option <5. Auto Rinse>. Wait for 30 minutes.
4. Select option <Select> and select option <5. Auto Rinse>.
5. Prepare a beaker with 500 ml distilled water and connect to the diluent aspiration tube.
6. Select option <Select> and select option <5. Auto Rinse> and repeat.
7. Connect J.T.Baker® Diluid™ 100 Plus to the diluent aspiration tube.
8. Select option <Select> and select option <5. Auto Rinse> and repeat.
9. Perform a startup and background check. Repeat if necessary.

Sysmex® and its subsidiary products are trademarks Sysmex Corporation.
The information contained herein has not been approved by Sysmex Corporation.
Always refer to the user manual provided with the equipment at issue.

Urit® Analyzers

Urit® Analyzers – Reagents

Description	J.T.Baker® Product	Product Nr.	Pack Size
Urit® 3010, 2900			
Diluent	Diluid™ III Diff	3963	20 L
Lyse	CyMet™ III Diff	3964	5 L
		3968	1 L
Cleaner	ProClean™ Extra	3862.5000	5 L
		3862.1000	1 L
Hematology Control	3-Diff Control L/N/H	3433/3434/3435	2.5 ml, vial
		3502/3503/3504	4.5 ml

Urit® and its subsidiary products are manufactured by Urit Medical Electronic Co., Ltd.
The information contained herein has not been approved by Urit Medical Electronic Co., Ltd.
Always refer to the user manual provided with the equipment at issue.

Cleaning and Rinsing Solutions

Avantor™ offers different types of J.T.Baker® brand cleaners and rinsing solutions, suitable for use with many popular brands of hematology instruments. Below is an overview of the different types of cleaners available and their properties. For information on specific applications, refer to the analyzer pages.

J.T.Baker® Cleaners Selection Guide

J.T.Baker® Product	Product Nr	Pack Size	Color	Use	Principle
Blanking Solution HgB	3507.9020	20 L	Colorless	On-line	Chemical
Blanking Solution ST1600-2000	3947	20 L	Colorless	On-line	Chemical
DetectoTerge™	3763	5 L	Green	On-line	Chemical
	3766	1 L			
DetectoTerge™ BS	2970.0900PE	900 ml	Green	On-line	Chemical
HyClean	2907.5000PC	5 L	Colorless	On-line	Hypochlorite
HypoChlorite 0.5%	3917.5000	5 L	Colorless	Emergency /On-line	Hypochlorite
	3917	1 L			
HypoChlorite NR	3941.5000PC	5 L	Colorless	On-line	Hypochlorite
	3941.1000PE	1 L			
	3941.0100PE	100 ml		Emergency	
ProClean™	3900	5L	Purple	On-line	Enzymatic
	3768.1000	1 L micros			
ProClean™ Abacus	3432.5000	5L	Purple	On-line	Enzymatic
	3432.1000PE	1 L			
ProClean™ CD	3902.0100PE	100 ml	Yellowish	Emergency	Enzymatic
ProClean™ Extra	3862.5000	5 L	Colorless	On-line	Enzymatic
	3862.1000	1 L			
	3867.1000PE	1L micros			
ProClean™ MX5	3498.1000PE	1 L	Colorless	On-line	Enzymatic
ProClean™ Plus	3901	100 ml	Colorless	Emergency	Enzymatic
Rinse Mindray	3442.5000PE	5 L	Colorless	On-line	Chemical
Rinse VET	3438.5000PC	5 L	Colorless	On-line	Chemical
	3438.1000PE	1 L			

Hematology Controls

Avantor™ offers different types of J.T.Baker® hematology controls, suitable for use with many popular hematology instruments. Below is an overview for what instrument the controls can be used.

J.T.Baker® Hematology Controls Selection Guide

Instrument	Type	8 PMC	8 PMC VET	3-Diff	5D	ADV-Diff	BC-Diff 5	CD-Diff	K-Diff	SF-Diff	XE-Diff	Platelet	Cal-Set 1
Abbott®	Cell-Dyn® Sapphire, Ruby, 4000, 3700, 3500							x				x	
	Cell Dyn® 3200 and 3000							x					
	Cell-Dyn® 1800, 1700, 1600 and 1300	x		x									x
	Cell-Dyn® Emerald 18			x									
ABX®	Pentra® 80, 60, 60C, 60C+, 60ES, 60MS	x										x	x
	Micros® 60, ES60, 45	x		x									x
Avantor Performance Materials™	BeneSphera™ H34, H32 3-part diff	x		x									x
	BeneSphera™ H32 3-part diff VET		x										
AVL	818, 816	x		x									x
Bayer®	Advia® 60	x		x									x
	Advia® 120					x						x	
Beckman Coulter®	AcT Diff™, AcT Diff 2™	x		x									x
	AcT10™, AcT8™, AcT5™	x											x
	STKS™, GenS™, LH780, LH750, LH500, HmX™, MaxM™	x			x								
Diatron	Abacus Junior 5									x			x
	Abacus, Abacus Junior	x		x									x
Drew	D3, Excell 18	x		x									
Erma	PCE-210, PCE-170	x		x									x
HTI®	Micros CC20, CC18			x									
Medonic	CA620-20, CA620-16, CA610, CA600, CA570, CA530-16			x									x
	CA590, CA580, CA530-9	x											x
Mindray®	BC-5380, BC-5300						x						x
	BC-3200, BC-3000+, BC-2800, BC-2300, BC-2000	x		x									x
Nihon Kohden®	Celltac™ F MEK-8222K, α MEK-8118K+QA-810V, ES MEK-7300, E MEK-7222K	x						x					x
	Celltac™ α MEK-6450, MEK-6420, MEK-6410, MEK-6400, MEK-6318K, MEK-6108	x		x									x
Orphee	Mythic™ 18			x									x
Rayto	RT-7600			x									x
SEAC	H20 Genius	x						x					
	H12, H8	x											x
Swelab®	AC970eo+, AC920eo+	x										x	
	AC910, AC900											x	x
Sysmex®	SF3000									x			x
	K4500, K1000, KX21, KX21-N	x							x				x
	XE2100, XT2000i, XT1800i, XS1000i										x	x	
Urit®	3010,2900			x									

The information contained herein has not been approved by listed instrument manufacturer. Always refer to the user manual provided with the equipment at issue.

The J.T.Baker® hematology controls are available in Low, Normal and High levels. Product numbers, packaging, stability and ordering frequency information can be found in the table below.

J.T.Baker® Hematology Controls Overview

J.T.Baker® Product	Level	Control Number	Volume	Pack type	Stability (months)	Open vial stability (weeks)	Ordering frequency (per year)
8-Parameter Control	L/N/H	3427/3428/3429	2.5 ml	Screw cap	4	4	4
	L/N/H	3463/3464/3465	2.5 ml	Pierceable cap	4	4	4
	L/N/H	3701/3702/3703	4.5 ml	Pierceable cap	4	4	4
	L+N+H	3746	3 x 2.5 ml	Screw cap	4	4	4
	4xN	3747	4 x 2.5 ml	Screw cap	4	4	4
	1xL+4xN+1xH	3751	6 x 2.5 ml	Screw cap	4	4	4
8-Parameter Control extended	L/N/H	3633/3634/3635	2.5 ml	Screw cap	6	4	4
8-Parameter Control VET	L/N/H	2904/2905/2906	2.5 ml	Screw cap	4	4	4
3-Diff Control	L/N/H	3433/3434/3435	2.5 ml	Screw cap	4	3	4
	L/N/H	3502/3503/3504	4.5 ml	Pierceable cap	4	3	4
	4xL	3466	4 x 2.5 ml	Screw cap	4	3	4
	4xN	3467	4 x 2.5 ml	Screw cap	4	3	4
	4xH	3468	4 x 2.5 ml	Screw cap	4	3	4
3-Diff Control extented	L/N/H	3421/3422/3423	2.5 ml	Screw cap	6	3	4
5D Control	L/N/H	3681/3682/3683	5.0 ml	Pierceable cap	3	2	6
ADV-Diff Control	L/N/H	3684/3685/3686	3.5 ml	Screw cap	3	2	6
BC-Diff 5 Control	L/N/H	3613/3614/3615	3.0 ml	Pierceable cap	3	2	6
CD-Diff Control	L/N/H	3452/3453/3454	3.0 ml	Pierceable cap	3	2	6
	2xL+2xN+2xH	3838	6 x 3.0 ml	Pierceable cap	3	2	6
K-Diff Control	L/N/H	3455/3456/3457	2.5 ml	Screw cap	4	3	4
SF-Diff Control	L/N/H	3693/3694/3695	4.5 ml	Pierceable cap	3	2	6
XE-Diff Control	L/N/H	3731/3732/3733	4.5 ml	Pierceable cap	3	2	6
Cal-Set 1		3940	2 x 2.5 ml	Screw cap	3	2	4
Platelet - Extended value		3424	5 x 3 ml	Pierceable cap	3	2	6
WBC Reduced RBC	L/H	3698/3699	3.0 ml	Pierceable cap	3	4	6

Biosafety information

Each human donor/unit used in the preparation of the products listed above has been tested by a United States Food and Drug Administration licensed method/test* and found to be negative or non reactive for the presence of HBsAg, Anti HCV, HIV 1, HCV (RNA) and HIV 1/2. Each unit is also negative by a immunoassay test for Syphilis.

Because no test method can offer complete assurance that infectious agents are absent, this material should be handled as potentially infectious. When handling or disposing of vials, follow precautions for patient specimens as specified in local biosafety procedures.

Stability

To guarantee the stability in the table above, the hematology controls have to be stored upright at 2-8 °C when not in use. The vials may be stressed for 48 hours at 18 °C maximum, without losing product integrity. The stability period of opened vials is guaranteed when the hematology controls are used in accordance with the instructions for use.

Ordering information

The J.T.Baker® hematology controls are manufactured and delivered four or six times per year; see the table above for ordering frequency information.

* Information about the test methods is available on request.

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Assay Value Sheet

AVANTOR PERFORMANCE MATERIALS

D0000801
Version: 19.0

Assay values 8 Parameter Controls (US-Units)

REF
3463-3464-3465-3619-3620-3621-3701-3702-3703
3746-3747-3749-3751-3427-3428-3429

LOT 218

2015-01-19

All Coulter Counter Models; Erma Models PCE170, PCE210
Seac: H8, 10, 12 and Genius series; All AVL (Contraves) Models

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.5	1.0	20.0	2.0
RBC x 10^{12}/l	2.26	0.12	4.55	0.15	5.64	0.18
Hb g/dl	6.1	0.4	13.4	0.5	17.9	0.6
Hct %	18.1	1.5	40.0	2.4	53.6	3.0
MCV fl	80	4	88	4	95	4
MCH pg	27.0	2.4	29.5	2.8	31.7	3.0
MCHC g/dl	33.7	3.0	33.5	3.0	33.4	3.0
RDW %	16.8	2.0	14.5	2.0	15.5	2.0
Plts x 10^9/l	75	15	250	30	475	50
MPV fl	7.9	1.5	8.0	1.5	8.1	1.5

Seac: HeCo, HeCo C / S / Plus; Heco Vet / Vet C / Vet S / Plus vet

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.1	1.0	19.1	2.0
RBC x 10^{12}/l	2.28	0.12	4.60	0.15	5.64	0.18
Hb g/dl	6.0	0.4	13.1	0.5	17.5	0.6
Hct %	17.3	1.5	39.1	2.4	53.0	3.0
MCV fl	76	4	85	4	94	4
MCH pg	26.3	2.4	28.5	2.8	31.0	3.0
MCHC g/dl	34.6	3.0	33.5	3.0	33.0	3.0
Plts x 10^9/l	67	15	239	30	467	50
MPV fl	10.5	1.5	11.0	1.5	11.1	1.5
Pct %	0.07	0.02	0.26	0.05	0.52	0.10

Swelab Auto Counter Series; 3-part diff AC-series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.9	0.4	10.4	1.0	19.8	2.0
RBC x 10^{12}/l	2.28	0.12	4.50	0.15	5.60	0.18
Hb g/dl	6.0	0.4	13.3	0.5	17.9	0.6
Hct %	17.8	1.5	38.7	2.4	52.1	3.0
MCV fl	78	4	86	4	93	4
MCH pg	26.3	2.4	29.6	2.8	32.0	3.0
MCHC g/dl	33.7	3.0	34.4	3.0	34.4	3.0
RDW %	13.8	2.0	12.5	2.0	13.5	2.0
Plts x 10^9/l	89	15	255	30	471	50
MPV fl	6.1	1.5	6.6	1.5	6.9	1.5

Sysmex™: F-series, K-series, KX-21 and X-series (CBC mode)

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.4	1.0	19.4	2.0
RBC x 10^{12}/l	2.33	0.12	4.64	0.15	5.70	0.18
Hb g/dl	6.1	0.4	13.3	0.5	17.5	0.6
Hct %	17.7	1.5	38.2	2.4	50.8	3.0
MCV fl	76	4	82	4	89	4
MCH pg	26.2	2.4	28.6	2.8	30.8	3.0
MCHC g/dl	34.5	3.0	34.8	3.0	34.6	3.0
Plts x 10^9/l	71	15	250	30	475	50
MPV fl	8.4	1.5	9.1	1.5	9.2	1.5

ABX: Micros, Pentra 60, 80 and 120 (cbc mode); Bayer Advia 60

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.9	0.4	10.3	1.0	19.5	2.0
RBC x 10^{12}/l	2.25	0.12	4.54	0.15	5.68	0.18
Hb g/dl	6.0	0.4	13.3	0.5	18.1	0.6
Hct %	16.7	1.5	38.0	2.4	51.7	3.0
MCV fl	74	4	84	4	91	4
MCH pg	26.7	2.4	29.3	2.8	31.8	3.0
MCHC g/dl	35.8	3.0	35.0	3.0	34.9	3.0
Plts x 10^9/l	73	15	247	30	446	50

Diatron Abacus, Arcus

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.7	0.4	10.7	1.0	20.4	2.0
RBC x 10^{12}/l	2.33	0.12	4.71	0.15	5.66	0.18
Hb g/dl	6.2	0.4	13.5	0.5	17.5	0.6
Hct %	19.2	1.5	43.3	2.4	56.4	3.0
MCV fl	82	4	92	4	100	4
MCH pg	26.6	2.4	28.6	2.8	30.9	3.0
MCHC g/dl	32.3	3.0	31.2	3.0	31.0	3.0
Plts x 10^9/l	69	15	262	30	492	50
MPV fl	7.8	1.5	8.2	1.5	8.2	1.5

Avantor BeneSphera™ H-32 HUMAN (User and QC-Mode)
Avantor BeneSphera™ H-32 VET (ONLY QC-MODE)

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.3	1.0	20.0	2.0
RBC x 10^{12}/l	2.30	0.12	4.41	0.15	5.52	0.18
Hb g/dl	6.1	0.4	13.4	0.5	18.4	0.6
Hct %	18.9	1.5	39.2	2.4	51.9	3.0
MCV fl	82	4	89	4	94	4
MCH pg	26.5	2.4	30.4	2.8	33.3	3.0
MCHC g/dl	32.3	3.0	34.1	3.0	35.5	3.0
RDW %	17.8	2.0	13.9	2.0	14.3	2.0
Plts x 10^9/l	73	15	220	30	415	50
MPV fl	10.9	1.5	10.3	1.5	10.3	1.5

Abbott Cell-Dyn Series (not for 5-part diff)

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.3	0.4	10.3	1.0	18.7	2.0
RBC x 10^{12}/l	2.30	0.12	4.50	0.15	5.52	0.18
Hb g/dl	6.1	0.4	13.3	0.5	17.7	0.6
Hct %	18.6	1.5	40.5	2.4	53.5	3.0
MCV fl	81	4	90	4	97	4
MCH pg	26.5	2.4	29.6	2.8	32.1	3.0
MCHC g/dl	32.7	3.0	32.8	3.0	33.1	3.0
Plts x 10^9/l	71	15	243	30	455	50
MPV fl	8.4	1.5	8.4	1.5	8.3	1.5

Medonic Series/Analys Series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.8	0.4	10.4	1.0	18.6	2.0
RBC x 10^{12}/l	2.28	0.12	4.51	0.15	5.61	0.18
Hb g/dl	5.8	0.4	13.0	0.5	17.5	0.6
Hct %	17.8	1.5	39.2	2.4	52.7	3.0
MCV fl	78	4	87	4	94	4
MCH pg	25.4	2.4	28.8	2.8	31.2	3.0
MCHC g/dl	32.6	3.0	33.1	3.0	33.2	3.0
Plts x 10^9/l	75	15	240	30	425	50
MPV fl	7.4	1.5	8.0	1.5	8.1	1.5

Nihon Kohden Celltac and MEK series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.2	0.4	10.6	1.0	19.6	2.0
RBC x 10^{12}/l	2.36	0.12	4.56	0.15	5.55	0.18
Hb g/dl	6.3	0.4	13.7	0.5	18.2	0.6
Hct %	19.1	1.5	41.1	2.4	54.1	3.0
MCV fl	81	4	90	4	97	4
MCH pg	26.5	2.4	30.0	2.8	32.9	3.0
MCHC g/dl	32.9	3.0	33.3	3.0	33.7	3.0
Plts x 10^9/l	77	15	261	30	458	50

Mindray BC series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.8	0.4	10.2	1.0	18.5	2.0
RBC x 10^{12}/l	2.26	0.12	4.59	0.15	5.57	0.18
Hb g/dl	6.1	0.4	13.8	0.5	18.6	0.6
Hct %	19.2	1.5	43.1	2.4	56.3	3.0
MCV fl	85	4	94	4	101	4
MCH pg	27.0	2.4	30.1	2.8	33.4	3.0
MCHC g/dl	31.8	3.0	32.0	3.0	33.1	3.0
Plts x 10^9/l	75	15	220	30	390	50

All Drew (MWI) Models (except Excell 22); Orphee Mythic 18

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.5	1.0	20.0	2.0
RBC x 10^{12}/l	2.23	0.12	4.47	0.15	5.59	0.18
Hb g/dl	5.7	0.4	13.4	0.5	18.4	0.6
Hct %	18.3	1.5	40.2	2.4	53.1	3.0
MCV fl	82	4	90	4	95	4
MCH pg	25.6	2.4	30.0	2.8	32.9	3.0
MCHC g/dl	31.2	3.0	33.3	3.0	34.6	3.0
Plts x 10^9/l	75	15	235	30	455	50
MPV fl	7.9	1.5	8.0	1.5	8.1	1.5

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The devices as mentioned in this insert comply with the In Vitro Diagnostic Medical Devices Directive 98/79/EC.

2ºC 8ºC

IVD

CE

Assay Value Sheet

D0000801
Version: 19.0

Assay values 8 Parameter Controls (SI Units)

REF
3463-3464-3465-3619-3620-3621-3701-3702-3703
3746-3747-3749-3751-3427-3428-3429

LOT 218
2015-01-19

All Coulter Counter Models; Erma PCE 170, PCE 210
Seac: H8, 10, 12 and Genius series; All AVL (Contraves) Models

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.5	1.0	20.0	2.0
RBC x 10^{12}/l	2.26	0.12	4.55	0.15	5.64	0.18
Hb mmol/l	3.8	0.2	8.3	0.3	11.1	0.4
Hct l/l	0.181	0.015	0.400	0.024	0.536	0.030
MCV fl	80	4	88	4	95	4
MCH fmol	1.68	0.15	1.83	0.17	1.97	0.19
MCHC mmol/l	20.9	1.9	20.8	1.9	20.7	1.9
RDW %	16.8	2.0	14.5	2.0	15.5	2.0
Plts x 10^9/l	75	15	250	30	475	50
MPV fl	7.9	1.5	8.0	1.5	8.1	1.5

Seac: HeCo, HeCo C / S / Plus; Heco Vet / Vet C / Vet S / Plus vet

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.1	1.0	19.1	2.0
RBC x 10^{12}/l	2.28	0.12	4.60	0.15	5.64	0.18
Hb mmol/l	3.7	0.2	8.1	0.3	10.9	0.4
Hct l/l	0.173	0.015	0.391	0.024	0.530	0.030
MCV fl	76	4	85	4	94	4
MCH fmol	1.63	0.15	1.77	0.17	1.93	0.19
MCHC mmol/l	21.5	1.9	20.8	1.9	20.5	1.9
Plts x 10^9/l	67	15	239	30	467	50
MPV fl	10.5	1.5	11.0	1.5	11.1	1.5
Pct ml/L	0.70	0.20	2.63	0.50	5.18	1.00

Swelab Auto Counter Series; 3-part diff. AC-series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.9	0.4	10.4	1.0	19.8	2.0
RBC x 10^{12}/l	2.28	0.12	4.50	0.15	5.60	0.18
Hb mmol/l	3.7	0.2	8.2	0.3	11.1	0.4
Hct l/l	0.178	0.015	0.387	0.024	0.521	0.030
MCV fl	78	4	86	4	93	4
MCH fmol	1.62	0.15	1.83	0.17	1.98	0.19
MCHC mmol/l	20.7	1.9	21.2	1.9	21.3	1.9
RDW %	13.8	2.0	12.5	2.0	13.5	2.0
Plts x 10^9/l	89	15	255	30	471	50
MPV fl	6.1	1.5	6.6	1.5	6.9	1.5

Sysmex™: F-series, K-series, KX-21 and X-series (CBC mode)

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.4	1.0	19.4	2.0
RBC x 10^{12}/l	2.33	0.12	4.64	0.15	5.70	0.18
Hb mmol/l	3.8	0.2	8.2	0.3	10.9	0.4
Hct l/l	0.177	0.015	0.382	0.024	0.508	0.030
MCV fl	76	4	82	4	89	4
MCH fmol	1.63	0.15	1.77	0.17	1.91	0.19
MCHC mmol/l	21.4	1.9	21.6	1.9	21.4	1.9
Plts x 10^9/l	71	15	250	30	475	50
MPV fl	8.4	1.5	9.1	1.5	9.2	1.5

ABX: Micros, Pentra 60, 80 and 120 (cbc mode); Bayer Advia 60

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.9	0.4	10.3	1.0	19.5	2.0
RBC x 10^{12}/l	2.25	0.12	4.54	0.15	5.68	0.18
Hb mmol/l	3.7	0.2	8.3	0.3	11.2	0.4
Hct l/l	0.167	0.015	0.380	0.024	0.517	0.030
MCV fl	74	4	84	4	91	4
MCH fmol	1.65	0.15	1.82	0.17	1.97	0.19
MCHC mmol/l	22.2	1.9	21.7	1.9	21.7	1.9
Plts x 10^9/l	73	15	247	30	446	50

Diatron Abacus, Arcus

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.7	0.4	10.7	1.0	20.4	2.0
RBC x 10^{12}/l	2.33	0.12	4.71	0.15	5.66	0.18
Hb mmol/l	3.9	0.2	8.4	0.3	10.9	0.4
Hct l/l	0.192	0.015	0.433	0.024	0.564	0.030
MCV fl	82	4	92	4	100	4
MCH fmol	1.65	0.15	1.78	0.17	1.92	0.19
MCHC mmol/l	20.1	1.9	19.3	1.9	19.3	1.9
Plts x 10^9/l	69	15	262	30	492	50
MPV fl	7.8	1.5	8.2	1.5	8.2	1.5

Avantor BeneSphera™ H-32 HUMAN (User and QC-Mode)
Avantor BeneSphera™ H-32 VET (ONLY QC-MODE)

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.3	1.0	20.0	2.0
RBC x 10^{12}/l	2.30	0.12	4.41	0.15	5.52	0.18
Hb mmol/l	3.8	0.2	8.3	0.3	11.6	0.4
Hct l/l	0.189	0.015	0.392	0.024	0.519	0.030
MCV fl	82	4	89	4	94	4
MCH fmol	1.65	0.15	1.89	0.17	2.10	0.19
MCHC mmol/l	20.1	1.9	21.2	1.9	22.4	1.9
RDW %	17.8	2.0	13.9	2.0	14.3	2.0
Plts x 10^9/l	73	15	220	30	415	50
MPV fl	10.9	1.5	10.3	1.5	10.3	1.5

Abbott Cell-Dyn Series (not for 5-part diff)

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.3	0.4	10.3	1.0	18.7	2.0
RBC x 10^{12}/l	2.30	0.12	4.50	0.15	5.52	0.18
Hb mmol/l	3.8	0.2	8.3	0.3	11.0	0.4
Hct l/l	0.186	0.015	0.405	0.024	0.535	0.030
MCV fl	81	4	90	4	97	4
MCH fmol	1.65	0.15	1.83	0.17	1.99	0.19
MCHC mmol/l	20.3	1.9	20.4	1.9	20.5	1.9
Plts x 10^9/l	71	15	243	30	455	50
MPV fl	8.4	1.5	8.4	1.5	8.3	1.5

Medonic Series/Analys Series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.8	0.4	10.4	1.0	18.6	2.0
RBC x 10^{12}/l	2.28	0.12	4.51	0.15	5.61	0.18
Hb mmol/l	3.5	0.2	7.9	0.3	10.7	0.4
Hct l/l	0.178	0.015	0.392	0.024	0.527	0.030
MCV fl	78	4	87	4	94	4
MCH fmol	1.53	0.15	1.76	0.17	1.91	0.19
MCHC mmol/l	19.6	1.9	20.2	1.9	20.3	1.9
Plts x 10^9/l	75	15	240	30	425	50
MPV fl	7.4	1.5	8.0	1.5	8.1	1.5

Nihon Kohden Celltac and MEK series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.2	0.4	10.6	1.0	19.6	2.0
RBC x 10^{12}/l	2.36	0.12	4.56	0.15	5.55	0.18
Hb mmol/l	3.9	0.2	8.5	0.3	11.3	0.4
Hct l/l	0.191	0.015	0.411	0.024	0.541	0.030
MCV fl	81	4	90	4	97	4
MCH fmol	1.65	0.15	1.86	0.17	2.04	0.19
MCHC mmol/l	20.4	1.9	20.7	1.9	20.9	1.9
Plts x 10^9/l	77	15	261	30	458	50

Mindray BC series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.8	0.4	10.2	1.0	18.5	2.0
RBC x 10^{12}/l	2.26	0.12	4.59	0.15	5.57	0.18
Hb mmol/l	3.8	0.2	8.6	0.3	11.5	0.4
Hct l/l	0.192	0.015	0.431	0.024	0.563	0.030
MCV fl	85	4	94	4	101	4
MCH fmol	1.68	0.15	1.87	0.17	2.07	0.19
MCHC mmol/l	19.7	1.9	19.8	1.9	20.5	1.9
Plts x 10^9/l	75	15	220	30	390	50

All Drew (MWI) Models (except Excell 22); Orphee Mythic 18

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.5	1.0	20.0	2.0
RBC x 10^{12}/l	2.23	0.12	4.47	0.15	5.59	0.18
Hb mmol/l	3.5	0.2	8.3	0.3	11.4	0.4
Hct l/l	0.183	0.015	0.402	0.024	0.531	0.030
MCV fl	82	4	90	4	95	4
MCH fmol	1.59	0.15	1.86	0.17	2.04	0.19
MCHC mmol/l	19.3	1.9	20.7	1.9	21.5	1.9
Plts x 10^9/l	75	15	235	30	455	50
MPV fl	7.9	1.5	8.0	1.5	8.1	1.5

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2ºC 8ºC IVD CE

Assay Value Sheet

AVANTOR PERFORMANCE MATERIALS

D0000867
Version: 5.0

Assay values 8 Parameter Controls Extended (US-Units)

REF
3633, 3634, 3635

LOT 218
2015-03-19

All Coulter Counter Models; Erma Models PCE170, PCE210
Seac: H8, 10, 12 and Genius series; All AVL (Contraves) Models

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	baker!1963	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.5	1.0	20.0	2.0
RBC x 10^{12}/l	2.26	0.12	4.55	0.15	5.64	0.18
Hb g/dl	6.1	0.4	13.4	0.5	17.9	0.6
Hct %	18.1	3.0	40.0	3.0	53.6	3.0
MCV fl	80	12	88	7	95	7
MCH pg	27.0	2.4	29.5	2.8	31.7	3.0
MCHC g/dl	33.7	6.0	33.5	3.0	33.4	3.0
RDW %	16.8	2.0	14.5	2.0	15.5	2.0
Plts x 10^9/l	75	15	250	30	475	50
MPV fl	7.9	1.5	8.0	1.5	8.1	1.5

Seac: HeCo, HeCo C / S / Plus; Heco Vet / Vet C / Vet S / Plus vet

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.1	1.0	19.1	2.0
RBC x 10^{12}/l	2.28	0.12	4.60	0.15	5.64	0.18
Hb g/dl	6.0	0.4	13.1	0.5	17.5	0.6
Hct %	17.3	3.0	39.1	3.0	53.0	3.0
MCV fl	76	12	85	7	94	7
MCH pg	26.3	2.4	28.5	2.8	31.0	3.0
MCHC g/dl	34.6	6.0	33.5	3.0	33.0	3.0
Plts x 10^9/l	67	15	239	30	467	50
MPV fl	10.5	1.5	11.0	1.5	11.1	1.5
Pct %	0.07	0.02	0.26	0.05	0.5	0.10

Swelab Auto Counter Series; 3-part diff AC-series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.9	0.4	10.4	1.0	19.8	2.0
RBC x 10^{12}/l	2.28	0.12	4.50	0.15	5.60	0.18
Hb g/dl	6.0	0.4	13.3	0.5	17.9	0.6
Hct %	17.8	3.0	38.7	3.0	52.1	3.0
MCV fl	78	12	86	7	93	7
MCH pg	26.3	2.4	29.6	2.8	32.0	3.0
MCHC g/dl	33.7	6.0	34.4	3.0	34.4	3.0
RDW %	13.8	2.0	12.5	2.0	13.5	2.0
Plts x 10^9/l	89	15	255	30	471	50
MPV fl	6.1	1.5	6.6	1.5	6.9	1.5

Sysmex™; F-series, K-series, KX-21 and X-series (CBC mode)

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.4	1.0	19.4	2.0
RBC x 10^{12}/l	2.33	0.12	4.64	0.15	5.70	0.18
Hb g/dl	6.1	0.4	13.3	0.5	17.5	0.6
Hct %	17.7	3.0	38.2	3.0	50.8	3.0
MCV fl	76	18	82	10	89	8
MCH pg	26.2	2.4	28.6	2.8	30.8	3.0
MCHC g/dl	34.5	6.0	34.8	3.0	34.6	3.0
Plts x 10^9/l	71	15	250	30	475	50
MPV fl	8.4	1.5	9.1	1.5	9.2	1.5

ABX: Micros, Pentra 60, 80 and 120 (cbc mode); Bayer Advia 60

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.9	0.4	10.3	1.0	19.5	2.0
RBC x 10^{12}/l	2.25	0.12	4.54	0.15	5.68	0.18
Hb g/dl	6.0	0.4	13.3	0.5	18.1	0.6
Hct %	16.7	3.0	38.0	3.0	51.7	3.0
MCV fl	74	12	84	7	91	7
MCH pg	26.7	2.4	29.3	2.8	31.8	3.0
MCHC g/dl	35.8	6.0	35.0	3.0	34.9	3.0
Plts x 10^9/l	73	15	247	30	446	50

Diatron Abacus, Arcus

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.7	0.4	10.7	1.0	20.4	2.0
RBC x 10^{12}/l	2.33	0.12	4.71	0.15	5.66	0.18
Hb g/dl	6.2	0.4	13.5	0.5	17.5	0.6
Hct %	19.2	3.0	43.3	3.0	56.4	3.0
MCV fl	82	12	92	7	100	7
MCH pg	26.6	2.4	28.6	2.8	30.9	3.0
MCHC g/dl	32.3	6.0	31.2	3.0	31.0	3.0
Plts x 10^9/l	69	15	262	30	492	50
MPV fl	7.8	1.5	8.2	1.5	8.2	1.5

Avantor BeneSphera™ H-32 HUMAN (User and QC-Mode)
Avantor BeneSphera™ H-32 VET (ONLY QC-MODE)

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.3	1.0	20.0	2.0
RBC x 10^{12}/l	2.30	0.12	4.41	0.15	5.52	0.18
Hb g/dl	6.1	0.4	13.4	0.5	18.4	0.6
Hct %	18.9	3.0	39.2	3.0	51.9	3.0
MCV fl	82	12	89	7	94	7
MCH pg	26.5	2.4	30.4	2.8	33.3	3.0
MCHC g/dl	32.3	6.0	34.1	3.0	35.5	3.0
RDW %	17.8	2.0	13.9	2.0	14.3	2.0
Plts x 10^9/l	73	15	220	30	415	50
MPV fl	10.9	1.5	10.3	1.5	10.3	1.5

Abbott Cell-Dyn Series (not for 5-part diff)

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.3	0.4	10.3	1.0	18.7	2.0
RBC x 10^{12}/l	2.30	0.12	4.50	0.15	5.52	0.18
Hb g/dl	6.1	0.4	13.3	0.5	17.7	0.6
Hct %	18.6	3.0	40.5	3.0	53.5	3.0
MCV fl	81	12	90	7	97	7
MCH pg	26.5	2.4	29.6	2.8	32.1	3.0
MCHC g/dl	32.7	6.0	32.8	3.0	33.1	3.0
Plts x 10^9/l	71	15	243	30	455	50
MPV fl	8.4	1.5	8.4	1.5	8.3	1.5

Medonic Series/Analys Series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.8	0.4	10.4	1.0	18.6	2.0
RBC x 10^{12}/l	2.28	0.12	4.51	0.15	5.61	0.18
Hb g/dl	5.8	0.4	13.0	0.5	17.5	0.6
Hct %	17.8	3.0	39.2	3.0	52.7	3.0
MCV fl	78	12	87	7	94	7
MCH pg	25.4	2.4	28.8	2.8	31.2	3.0
MCHC g/dl	32.6	6.0	33.1	3.0	33.2	3.0
Plts x 10^9/l	75	15	240	30	425	50
MPV fl	7.4	1.5	8.0	1.5	8.1	1.5

Nihon Kohden Celltac and MEK series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.2	0.4	10.6	1.0	19.6	2.0
RBC x 10^{12}/l	2.36	0.12	4.56	0.15	5.55	0.18
Hb g/dl	6.3	0.4	13.7	0.5	18.2	0.6
Hct %	19.1	3.0	41.1	3.0	54.1	3.0
MCV fl	81	12	90	7	97	7
MCH pg	26.5	2.4	30.0	2.8	32.9	3.0
MCHC g/dl	32.9	6.0	33.3	3.0	33.7	3.0
Plts x 10^9/l	77	15	261	30	458	50

Mindray BC series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.8	0.4	10.2	1.0	18.5	2.0
RBC x 10^{12}/l	2.26	0.12	4.59	0.15	5.57	0.18
Hb g/dl	6.1	0.4	13.8	0.5	18.6	0.6
Hct %	19.2	3.0	43.1	3.0	56.3	3.0
MCV fl	85	12	94	7	101	7
MCH pg	27.0	2.4	30.1	2.8	33.4	3.0
MCHC g/dl	31.8	6.0	32.0	3.0	33.1	3.0
Plts x 10^9/l	75	15	220	30	390	50

All Drew (MWI) Models (except Excell 22); Orphee Mythic 18

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.5	1.0	20.0	2.0
RBC x 10^{12}/l	2.23	0.12	4.47	0.15	5.59	0.18
Hb g/dl	5.7	0.4	13.4	0.5	18.4	0.6
Hct %	18.3	3.0	40.2	3.0	53.1	3.0
MCV fl	82	12	90	7	95	7
MCH pg	25.6	2.4	30.0	2.8	32.9	3.0
MCHC g/dl	31.2	6.0	33.3	3.0	34.6	3.0
Plts x 10^9/l	75	15	235	30	455	50
MPV fl	7.9	1.5	8.0	1.5	8.1	1.5

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2°C 8°C

IVD

CE

Assay Value Sheet

D0000867
Version: 5.0

Assay values 8 Parameter Controls Extended (SI Units)

REF
3633, 3634, 3635

LOT 218
2015-03-19

All Coulter Counter Models; Erma PCE 170, PCE 210
Seac: H8, 10, 12 and Genius series; All AVL (Contraves) Models

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.5	1.0	20.0	2.0
RBC x 10^{12}/l	2.26	0.12	4.55	0.15	5.64	0.18
Hb mmol/l	3.8	0.2	8.3	0.3	11.1	0.4
Hct l/l	0.181	0.030	0.400	0.030	0.536	0.030
MCV fl	80	12	88	7	95	7
MCH fmol	1.68	0.15	1.83	0.17	1.97	0.19
MCHC mmol/l	20.9	1.9	20.8	1.9	20.7	1.9
RDW %	16.8	2.0	14.5	2.0	15.5	2.0
Plts x 10^9/l	75	15	250	30	475	50
MPV fl	7.9	1.5	8.0	1.5	8.1	1.5

Seac: HeCo, HeCo C / S / Plus; Heco Vet / Vet C / Vet S / Plus vet

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.1	1.0	19.1	2.0
RBC x 10^{12}/l	2.28	0.12	4.60	0.15	5.64	0.18
Hb mmol/l	3.7	0.2	8.1	0.3	10.9	0.4
Hct l/l	0.173	0.030	0.391	0.030	0.530	0.030
MCV fl	76	12	85	7	94	7
MCH fmol	1.63	0.15	1.77	0.17	1.93	0.19
MCHC mmol/l	21.5	1.9	20.8	1.9	20.5	1.9
Plts x 10^9/l	67	15	239	30	467	50
MPV fl	10.5	1.5	11.0	1.5	11.1	1.5
Pct ml/L	0.70	0.20	2.63	0.50	5.18	1.00

Swelab Auto Counter Series; 3-part diff. AC-series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.9	0.4	10.4	1.0	19.8	2.0
RBC x 10^{12}/l	2.28	0.12	4.50	0.15	5.60	0.18
Hb mmol/l	3.7	0.2	8.2	0.3	11.1	0.4
Hct l/l	0.178	0.030	0.387	0.030	0.521	0.030
MCV fl	78	12	86	7	93	7
MCH fmol	1.62	0.15	1.83	0.17	1.98	0.19
MCHC mmol/l	20.7	1.9	21.2	1.9	21.3	1.9
RDW %	13.8	2.0	12.5	2.0	13.5	2.0
Plts x 10^9/l	89	15	255	30	471	50
MPV fl	6.1	1.5	6.6	1.5	6.9	1.5

Sysmex™: F-series, K-series, KX-21 and X-series (CBC mode)

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.4	1.0	19.4	2.0
RBC x 10^{12}/l	2.33	0.12	4.64	0.15	5.70	0.18
Hb mmol/l	3.8	0.2	8.2	0.3	10.9	0.4
Hct l/l	0.177	0.030	0.382	0.030	0.508	0.030
MCV fl	76	18	82	10	89	8
MCH fmol	1.63	0.15	1.77	0.17	1.91	0.19
MCHC mmol/l	21.4	1.9	21.6	1.9	21.4	1.9
Plts x 10^9/l	71	15	250	30	475	50
MPV fl	8.4	1.5	9.1	1.5	9.2	1.5

ABX: Micros, Pentra 60, 80 and 120 (cbc mode); Bayer Advia 60

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.9	0.4	10.3	1.0	19.5	2.0
RBC x 10^{12}/l	2.25	0.12	4.54	0.15	5.68	0.18
Hb mmol/l	3.7	0.2	8.3	0.3	11.2	0.4
Hct l/l	0.167	0.030	0.380	0.030	0.517	0.030
MCV fl	74	12	84	7	91	7
MCH fmol	1.65	0.15	1.82	0.17	1.97	0.19
MCHC mmol/l	22.2	1.9	21.7	1.9	21.7	1.9
Plts x 10^9/l	73	15	247	30	446	50

Diatron Abacus, Arcus

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.7	0.4	10.7	1.0	20.4	2.0
RBC x 10^{12}/l	2.33	0.12	4.71	0.15	5.66	0.18
Hb mmol/l	3.9	0.2	8.4	0.3	10.9	0.4
Hct l/l	0.192	0.030	0.433	0.030	0.564	0.030
MCV fl	82	12	92	7	100	7
MCH fmol	1.65	0.15	1.78	0.17	1.92	0.19
MCHC mmol/l	20.1	1.9	19.3	1.9	19.3	1.9
Plts x 10^9/l	69	15	262	30	492	50
MPV fl	7.8	1.5	8.2	1.5	8.2	1.5

Avantor BeneSphera™ H-32 HUMAN (User and QC-Mode)
Avantor BeneSphera™ H-32 VET (ONLY QC-MODE)

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.3	1.0	20.0	2.0
RBC x 10^{12}/l	2.30	0.12	4.41	0.15	5.52	0.18
Hb mmol/l	3.8	0.2	8.3	0.3	11.6	0.4
Hct l/l	0.189	0.015	0.392	0.024	0.519	0.030
MCV fl	82	12	89	7	94	7
MCH fmol	1.65	0.15	1.89	0.17	2.10	0.19
MCHC mmol/l	20.1	1.9	21.2	1.9	22.4	1.9
RDW %	17.8	2.0	13.9	2.0	14.3	2.0
Plts x 10^9/l	73	15	220	30	415	50
MPV fl	10.9	1.5	10.3	1.5	10.3	1.5

Abbott Cell-Dyn Series (not for 5-part diff)

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.3	0.4	10.3	1.0	18.7	2.0
RBC x 10^{12}/l	2.30	0.12	4.50	0.15	5.52	0.18
Hb mmol/l	3.8	0.2	8.3	0.3	11.0	0.4
Hct l/l	0.186	0.030	0.405	0.030	0.535	0.030
MCV fl	81	12	90	7	97	7
MCH fmol	1.65	0.15	1.83	0.17	1.99	0.19
MCHC mmol/l	20.3	1.9	20.4	1.9	20.5	1.9
Plts x 10^9/l	71	15	243	30	455	50
MPV fl	8.4	1.5	8.4	1.5	8.3	1.5

Medonic Series/Analys Series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.8	0.4	10.4	1.0	18.6	2.0
RBC x 10^{12}/l	2.28	0.12	4.51	0.15	5.61	0.18
Hb mmol/l	3.5	0.2	7.9	0.3	10.7	0.4
Hct l/l	0.178	0.030	0.392	0.030	0.527	0.030
MCV fl	78	12	87	7	94	7
MCH fmol	1.53	0.15	1.76	0.17	1.91	0.19
MCHC mmol/l	19.6	1.9	20.2	1.9	20.3	1.9
Plts x 10^9/l	75	15	240	30	425	50
MPV fl	7.4	1.5	8.0	1.5	8.1	1.5

Nihon Kohden Celltac and MEK series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.2	0.4	10.6	1.0	19.6	2.0
RBC x 10^{12}/l	2.36	0.12	4.56	0.15	5.55	0.18
Hb mmol/l	3.9	0.2	8.5	0.3	11.3	0.4
Hct l/l	0.191	0.030	0.411	0.030	0.541	0.030
MCV fl	81	12	90	7	97	7
MCH fmol	1.65	0.15	1.86	0.17	2.04	0.19
MCHC mmol/l	20.4	1.9	20.7	1.9	20.9	1.9
Plts x 10^9/l	77	15	261	30	458	50

Mindray BC series

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.8	0.4	10.2	1.0	18.5	2.0
RBC x 10^{12}/l	2.26	0.12	4.59	0.15	5.57	0.18
Hb mmol/l	3.8	0.2	8.6	0.3	11.5	0.4
Hct l/l	0.192	0.030	0.431	0.030	0.563	0.030
MCV fl	85	12	94	7	101	7
MCH fmol	1.68	0.15	1.87	0.17	2.07	0.19
MCHC mmol/l	19.7	1.9	19.8	1.9	20.5	1.9
Plts x 10^9/l	75	15	220	30	390	50

All Drew (MWI) Models (except Excell 22); Orphee Mythic 18

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.5	1.0	20.0	2.0
RBC x 10^{12}/l	2.23	0.12	4.47	0.15	5.59	0.18
Hb mmol/l	3.5	0.2	8.3	0.3	11.4	0.4
Hct l/l	0.183	0.030	0.402	0.030	0.531	0.030
MCV fl	82	12	90	7	95	7
MCH fmol	1.59	0.15	1.86	0.17	2.04	0.19
MCHC mmol/l	19.3	1.9	20.7	1.9	21.5	1.9
Plts x 10^9/l	75	15	235	30	455	50
MPV fl	7.9	1.5	8.0	1.5	8.1	1.5

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2ºC 8ºC

IVD

CE

Assay Value Sheet

D0000871
Version: 1.0

Assay values 8 Parameter Control Vet

REF
2904, 2905, 2906

LOT 218

2015-01-19

Avantor BeneSphera™ H-32 VET (QC-MODE) *

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.4	10.3	1.0	20.0	2.0
RBC x 10^{12}/l	2.30	0.12	4.41	0.15	5.52	0.18
Hb g/dl	6.1	0.4	13.4	0.5	18.4	0.6
Hct %	18.9	1.5	39.2	2.4	51.9	3.0
MCV fl	82	4	89	4	94	4
MCH pg	26.5	2.4	30.4	2.8	33.3	3.0
MCHC g/dl	32.3	3.0	34.1	3.0	35.5	3.0
Plts x 10^9/l	73	15	220	30	415	50
MPV fl	10.9	1.5	10.3	1.5	10.3	1.5

Avantor BeneSphera™ 3 H32-VET (DOG MODE)

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.5	10.3	1.0	19.0	2.0
RBC x 10^{12}/l	2.47	0.15	4.73	0.20	5.75	0.25
Hb g/dl	6.2	0.4	13.5	0.5	18.0	0.6
Hct %	19.7	1.5	36.2	2.4	48.5	3.0
MCV fl	79.7	5	76.6	5	84.4	5
MCH pg	25.1	2.4	28.5	2.8	31.3	3.0
MCHC g/dl	31.5	3.0	37.3	3.0	37.1	3.0
Plts x 10^9/l	47	25	160	40	296	70
MPV fl	5.9	2.0	5.6	2.0	5.7	2.0

Avantor BeneSphera™ 3 H32-VET (CAT MODE)

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.9	0.5	10.2	1.0	18.9	2.0
RBC x 10^{12}/l	2.24	0.15	4.27	0.20	5.30	0.25
Hb g/dl	6.2	0.4	13.7	0.5	18.5	0.6
Hct %	15.0	1.5	31.3	2.4	42.6	3.0
MCV fl	66.9	5	73.3	5	80.3	5
MCH pg	27.7	2.4	32.1	2.8	34.9	3.0
MCHC g/dl	41.4	3.0	43.8	3.0	43.5	3.0
Plts x 10^9/l	61.0	25	248	40	437	70
MPV fl	5.6	2.0	5.8	2.0	5.8	2.0

Avantor BeneSphera™ 3 H32-VET (HORSE MODE)

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	1.9	0.5	10.3	1.0	18.8	2.0
RBC x 10^{12}/l	2.23	0.15	4.35	0.20	5.24	0.25
Hb g/dl	6.2	0.4	13.8	0.5	17.9	0.6
Hct %	15.0	1.5	32.2	2.4	42.7	3.0
MCV fl	67.4	5	74.0	5	81.5	5
MCH pg	27.8	2.4	31.7	2.8	34.1	3.0
MCHC g/dl	41.3	3.0	42.9	3.0	41.8	3.0
Plts x 10^9/l	37.7	25	129	40	264	70
MPV fl	6.5	2.0	6.3	2.0	6.5	2.0

Avantor BeneSphera™ 3 H32-VET (CATTLE MODE)

Parameters	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC x 10^9/l	2.0	0.5	10.8	1.0	20.3	2.0
RBC x 10^{12}/l	2.12	0.15	4.13	0.20	5.05	0.25
Hb g/dl	6.1	0.4	13.3	0.5	17.8	0.6
Hct %	12.4	1.5	26.1	2.4	34.8	3.0
MCV fl	58.3	5	63.1	5	69.0	5
MCH pg	28.8	2.4	32.1	2.8	35.2	3.0
MCHC g/dl	49.4	3.0	50.9	3.0	51.0	3.0
Plts x 10^9/l	47.7	25	168	40	317	70
MPV fl	8.5	2.0	8.8	2.0	8.7	2.0

INTENDED USE

For Veterinary Use Only
* 8 Parameter Control VET is a control designed to monitor accuracy and precision in the QC-Mode of the BeneSphera H-32 Vet hematology analyzer.
Indicated Assay Value Means and Ranges for Dog, Cat, Horse and Cattle are derived using reference methods.
Customers are final responsible for Animal Mode calibration and to verify measured animal values.

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2ºC 8ºC

FOR VETERINARY USE ONLY

Assay Value Sheet

Assay values 3-Diff Controls
Combined US and SI Units

D0000803
Version 22.0

2°C 8°C IVD CE

REF : 3433-3434-3435-3466-3467-3468-3502-3503-3504

LOT : 210

: 2015-02-19

Coulter Counter Models (with III Diff. option; for AcT see separate table)

MELET MS9 NOTE : Please refer to next page for Erma Values

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.2	0.4	7.8	0.8	20.9	2.0
RBC 10^{12}/l	2.28	0.15	4.55	0.20	5.48	0.25
Hb g/dl	5.9	0.4	13.5	0.5	17.8	0.6
Hb mmol/l	3.7	0.3	8.4	0.4	11.1	0.5
Hct %	17.5	1.5	39.1	2.4	51.3	3.0
Hct l/l	0.175	0.015	0.391	0.024	0.513	0.030
MCV fl	76.6	4.0	85.9	4.0	93.6	4.0
MCH pg	26.0	2.4	29.7	2.8	32.5	2.8
MCH fmol	1.61	0.16	1.84	0.17	2.02	0.19
MCHC g/dl	33.9	3.0	34.6	3.0	34.7	3.0
MCHC mmol/l	21.1	2.0	21.4	2.0	21.6	2.0
RDW %	16.5	3.0	16.1	3.0	15.5	3.0
Plts 10^9/l	74	20	247	35	538	60
MPV fl	8.0	2.0	8.3	2.0	8.4	2.0
PDW %	17.2	3.0	16.4	3.0	16.8	3.0
LYMP %	65.2	6.0	32.9	4.0	17.2	4.0
MONO %	6.3	4.0	7.9	6.3	3.0	3.0
GRAN %	28.5	5.0	59.2	5.0	79.8	5.0
LYMP #	1.4	0.2	2.6	0.4	3.6	0.9
MONO #	0.1	0.1	0.6	0.5	0.6	0.4
GRAN #	0.6	0.2	4.6	0.4	16.7	1.1

ABX Roche: Micros 60, Micros ES 60; Bayer: Advia 60

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.3	0.4	7.3	0.8	19.4	2.0
RBC 10^{12}/l	2.28	0.15	4.51	0.20	5.48	0.25
Hb g/dl	5.6	0.4	13.5	0.5	17.8	0.6
Hb mmol/l	3.5	0.3	8.4	0.4	11.0	0.5
Hct %	16.2	1.5	37.7	2.4	50.7	3.0
Hct l/l	0.162	0.015	0.377	0.024	0.507	0.030
MCV fl	71.1	4.0	83.5	4.0	92.6	4.0
MCH pg	24.6	2.4	29.9	2.8	32.4	2.8
MCH fmol	1.53	0.16	1.85	0.17	2.01	0.19
MCHC g/dl	34.6	3.0	35.8	3.0	35.0	3.0
MCHC mmol/l	21.5	2.0	22.2	2.0	21.7	2.0
RDW %	15.1	3.0	16.5	3.0	15.9	3.0
Plts 10^9/l	81	20	244	35	503	60
MPV fl	7.6	2.0	7.9	2.0	7.9	2.0
LYMP %	56.4	6.0	29.2	4.0	15.7	4.0
MONO %	6.0	4.0	7.8	6.3	2.4	3.0
GRAN %	37.6	5.0	63.0	5.0	82.0	5.0
LYMP #	1.3	0.2	2.1	0.4	3.0	0.9
MONO #	0.1	0.1	0.6	0.6	0.5	0.5
GRAN #	0.9	0.2	4.6	0.4	15.9	1.1

Abbott Cell-Dyn: 1300, 1500, 1600, 1700, 1800 series

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.4	0.4	7.5	0.8	18.8	2.0
RBC 10^{12}/l	2.31	0.15	4.51	0.20	5.37	0.25
Hb g/dl	5.8	0.4	13.3	0.5	17.6	0.6
Hb mmol/l	3.6	0.3	8.3	0.4	10.9	0.5
Hct %	17.7	1.5	39.2	2.4	50.8	3.0
Hct l/l	0.177	0.015	0.392	0.024	0.508	0.030
MCV fl	76.6	4.0	86.9	4.0	94.6	4.0
MCH pg	25.2	2.4	29.5	2.8	32.8	2.8
MCH fmol	1.57	0.16	1.83	0.17	2.04	0.19
MCHC g/dl	32.9	3.0	33.9	3.0	34.7	3.0
MCHC mmol/l	20.4	2.0	21.1	2.0	21.5	2.0
Plts 10^9/l	70	20	242	35	525	60
MPV fl	8.9	2.0	8.8	2.0	8.6	2.0
LYMP %	65.2	6.0	32.9	4.0	17.2	4.0
MID %	6.3	4.0	7.9	6.3	3.0	3.0
GRAN %	28.5	5.0	59.2	5.0	79.8	5.0
LYMP #	1.6	0.2	2.5	0.4	3.2	0.9
MID #	0.2	0.2	0.6	0.5	0.6	0.4
GRAN #	0.7	0.2	4.4	0.4	15.0	1.1

AVL (Contraves): AVL - 816

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
Please refer to Table Coulter Counters for CBC parameters						
LYMP %	70.5	6.0	39.2	4.0	20.4	4.0
MONO %	5.8	4.0	9.0	6.3	3.8	3.0
GRAN %	23.7	5.0	51.8	5.0	75.7	5.0
LYMP #	1.6	0.2	3.1	0.4	4.3	0.9
MONO #	0.1	0.1	0.7	0.7	0.8	0.4
GRAN #	0.5	0.2	4.0	0.4	15.8	1.1

Coulter Counter: AcT diff, AcT diff 2

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.2	0.4	7.8	0.8	20.8	2.0
RBC 10^{12}/l	2.28	0.15	4.55	0.20	5.48	0.25
Hb g/dl	5.9	0.4	13.5	0.5	17.8	0.6
Hb mmol/l	3.7	0.3	8.4	0.4	11.1	0.5
Hct %	17.5	1.5	39.5	2.4	51.9	3.0
Hct l/l	0.175	0.015	0.395	0.024	0.519	0.030
MCV fl	76.6	4.0	86.9	4.0	94.6	4.0
MCH pg	26.0	2.4	29.7	2.8	32.5	2.8
MCH fmol	1.61	0.16	1.84	0.17	2.02	0.19
MCHC g/dl	33.9	3.0	34.2	3.0	34.4	3.0
MCHC mmol/l	21.1	2.0	21.2	2.0	21.3	2.0
RDW %	16.5	3.0	16.1	3.0	15.5	3.0
Plts 10^9/l	74	20	245	35	536	60
MPV fl	8.0	2.0	8.3	2.0	8.4	2.0
LYMP %	66.9	6.0	32.5	4.0	15.9	4.0
MONO %	3.5	4.0	6.3	6.3	2.1	3.0
GRAN %	29.6	5.0	61.2	5.0	82.0	5.0
LYMP #	1.5	0.2	2.5	0.4	3.3	0.9
MONO #	0.1	0.1	0.5	0.5	0.4	0.4
GRAN #	0.7	0.2	4.8	0.4	17.1	1.1

Coulter Counter: AcT 8, AcT 10

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
Please refer to Table AcT Diff for CBC parameters						
LYMP %	53.3	6.0	24.4	4.0	11.4	4.0
LYMP #	1.1	0.2	1.9	0.4	2.4	0.8

Nihon Kohden: Celltac and MEK series (not for 5-part diff)

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.2	0.4	7.8	0.8	20.9	2.0
RBC 10^{12}/l	2.26	0.15	4.55	0.20	5.40	0.25
Hb g/dl	6.0	0.4	13.8	0.5	18.5	0.6
Hb mmol/l	3.8	0.3	8.6	0.4	11.5	0.5
Hct %	17.3	1.5	39.7	2.4	53.2	3.0
Hct l/l	0.173	0.015	0.397	0.024	0.532	0.030
MCV fl	76.6	4.0	87.3	4.0	98.6	4.0
MCH pg	26.8	2.4	30.3	2.8	34.3	2.8
MCH fmol	1.66	0.16	1.88	0.17	2.13	0.19
MCHC g/dl	34.9	3.0	34.7	3.0	34.8	3.0
MCHC mmol/l	21.7	2.0	21.5	2.0	21.6	2.0
RDW %	15.4	3.0	15.5	3.0	14.7	3.0
Plts 10^9/l	76	20	251	35	559	60
MPV fl	8.0	2.0	7.2	2.0	6.9	2.0
LYMP %	69.5	8.0	34.2	4.0	20.1	4.0
MONO %	7.9	7.0	8.6	6.3	2.9	3.0
GRAN %	22.6	8.0	57.2	5.0	77.0	5.0
LYMP #	1.5	0.2	2.7	0.4	4.2	0.9
MONO #	0.2	0.2	0.7	0.5	0.6	0.4
GRAN #	0.5	0.4	4.5	0.4	16.1	1.1

Danam/Drew Excel18=MWI BT2100, D3; Orphee Mythic 18; Abbott Emerald 18

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.1	0.4	7.8	0.8	19.9	2.0
RBC 10^{12}/l	2.28	0.15	4.55	0.20	5.48	0.25
Hb g/dl	5.7	0.4	13.5	0.5	17.8	0.6
Hb mmol/l	3.6	0.3	8.4	0.4	11.1	0.5
Hct %	16.9	1.5	39.5	2.4	52.1	3.0
Hct l/l	0.169	0.015	0.395	0.024	0.521	0.030
MCV fl	74.3	4.0	86.9	4.0	95.0	4.0
MCH pg	25.1	2.4	29.7	2.8	32.5	2.8
MCH fmol	1.56	0.16	1.84	0.17	2.02	0.19
MCHC g/dl	33.8	3.0	34.1	3.0	34.2	3.0
MCHC mmol/l	21.0	2.0	21.2	2.0	21.2	2.0
RDW	14.6	3.0	13.5	3.0	13.0	3.0
Plts 10^9/l	74	20	230	35	499	60
MPV fl	8.0	2.0	8.3	2.0	8.4	2.0
LYMP %	63.2	6.0	29.7	4.0	15.8	4.0
MONO %	5.3	5.3	4.8	4.8	1.0	1.0
GRAN %	31.5	5.0	65.5	5.0	83.2	5.0
LYMP #	1.3	0.2	2.3	0.4	3.1	0.9
MONO #	0.1	0.1	0.4	0.4	0.2	0.2
GRAN #	0.7	0.2	5.1	0.4	16.6	1.1

AVL (Contraves): AVL - 818

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
Please refer to Table Coulter Counters for CBC parameters						
LYMP %	79.2	6.0	41.3	4.0	21.5	4.0
MONO %	5.1	4.0	8.4	6.3	3.7	3.0
GRAN %	15.8	5.0	50.4	5.0	74.8	5.0
LYMP #	1.7	0.2	3.2	0.4	4.5	0.9
MONO #	0.1	0.1	0.7	0.7	0.8	0.4
GRAN #	0.3	0.2	3.9	0.4	15.6	1.1

Assay Value Sheet

Assay values 3-Diff Controls
Combined US and SI Units

D0000803
Version 22.0

Avantor Performance Materials B.V.
P.O. Box 1 - 7400AA Deventer - The Netherlands
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The devices as mentioned in this insert comply with the
In Vitro Diagnostic Medical Devices Directive 98/79/EC.

LOT : 210

: 2015-02-19

Diatron: Abacus, Abacus 3, Abacus Junior, Arcus; Erba: Elite 3**

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.1	0.4	7.6	0.8	20.9	2.0
RBC 10^{12}/l	2.33	0.15	4.69	0.20	5.73	0.25
Hb g/dl	6.0	0.4	13.6	0.5	18.4	0.6
Hb mmol/l	3.7	0.3	8.5	0.4	11.4	0.5
Hct %	18.6	1.5	42.6	2.4	57.1	3.0
Hct l/l	0.186	0.015	0.426	0.024	0.571	0.030
MCV fl	79.8	4.0	90.9	4.0	99.7	4.0
MCH pg	25.8	2.4	29.0	2.8	32.1	2.8
MCH fmol	1.60	0.16	1.80	0.17	1.99	0.19
MCHC g/dl	32.3	3.0	31.9	3.0	32.2	3.0
MCHC mmol/l	20.0	2.0	19.8	2.0	20.0	2.0
RDW-SD fl	58.8	5.0	63.1	5.0	67.3	5.0
RDW-CV %	16.2	3.0	15.3	3.0	14.9	3.0
Plts 10^9/l	68	20	247	35	538	60
MPV fl	7.8	2.0	8.3	2.0	8.0	2.0
PCT %	0.05	0.02	0.20	0.06	0.43	0.10
PCT ml/l	0.53	0.2	2.05	0.3	4.32	0.4
PDW-SD fl	9.9	2.5	10.9	2.5	11.0	2.5
PDW-CV %	35.3	5.0	36.9	5.0	38.4	5.0
LYMP %	60.7	6.0	30.9	4.0	13.7	4.0
MONO %	5.1	5.1	7.3	7.3	3.9	3.9
GRAN %	34.2	6.0	61.9	5.0	82.5	6.0
LYMP #	1.3	0.2	2.4	0.4	2.9	0.9
MONO #	0.2	0.2	0.6	0.6	0.8	0.4
GRAN #	0.7	0.2	4.7	0.4	17.2	1.1

**** JT Baker reagents CyMet Abacus+Diluid Abacus=Use Reagent Code 2 in service settings!**

Medonic CA530, CA620

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	1.9	0.4	6.7	0.8	16.5	2.0
RBC 10^{12}/l	2.25	0.15	4.52	0.20	5.40	0.25
Hb g/dl	6.0	0.4	13.5	0.5	17.8	0.6
Hb mmol/l	3.7	0.3	8.4	0.4	11.1	0.5
Hct %	16.2	1.5	37.0	2.4	48.6	3.0
Hct l/l	0.162	0.015	0.370	0.024	0.486	0.030
MCV fl	71.9	4.0	81.8	4.0	89.9	4.0
MCH pg	26.8	2.4	29.9	2.8	33.0	2.8
MCH fmol	1.66	0.16	1.85	0.17	2.05	0.19
MCHC g/dl	37.3	3.0	36.5	3.0	36.7	3.0
MCHC mmol/l	23.1	2.0	22.7	2.0	22.8	2.0
RDW %	14.6	3.0	17.4	3.0	17.4	3.0
Plts 10^9/l	73	20	233	35	479	60
MPV fl	7.5	2.0	8.0	2.0	8.1	2.0
LYMP %	71.9	9.0	37.7	6.0	20.3	4.0
MONO %	4.1	5.0	9.8	6.0	5.7	5.7
GRAN %	24.0	5.0	52.5	9.0	74.0	10.0
LYMP #	1.4	0.2	2.5	0.4	3.3	0.9
MONO #	0.1	0.1	0.7	0.7	0.9	0.8
GRAN #	0.5	0.2	3.5	0.4	12.2	1.1

Inmesco HM1060; Rayto RT-7600; HTI Micros CC 20 Plus

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.0	0.4	7.8	0.8	20.3	2.0
RBC 10^{12}/l	2.28	0.15	4.45	0.20	5.28	0.25
Hb g/dl	5.9	0.4	13.8	0.5	18.9	0.6
Hb mmol/l	3.7	0.3	8.4	0.4	11.7	0.5
Hct %	17.5	1.5	39.5	2.4	51.9	3.0
Hct l/l	0.175	0.015	0.395	0.024	0.519	0.030
MCV fl	78.6	4.0	86.9	4.0	95.6	4.0
MCH pg	26.0	2.4	31.0	2.8	35.8	2.8
MCH fmol	1.61	0.2	1.88	0.2	2.22	0.2
MCHC g/dl	33.9	3.0	34.9	3.0	36.5	3.0
MCHC mmol/l	21.1	2.0	21.2	2.0	22.6	2.0
RDW-CV %	12.2	3.0	11.9	3.0	11.5	3.0
RDW-SD fl	38.5	5.0	43.5	5.0	47.3	5.0
Plts 10^9/l	66	20	235	35	536	60
MPV fl	9.9	2.0	9.6	2.0	9.4	2.0
PCT %	0.07	0.02	0.23	0.06	0.50	0.10
PCT ml/l	0.65	0.20	2.25	0.30	5.04	0.40
PDW %	9.0	3.0	12.1	3.0	12.8	3.0
LYMP %	59.9	8.0	28.8	5.0	13.4	4.0
MONO %	9.8	6.0	8.8	5.0	5.0	5.0
GRAN %	30.3	6.0	62.4	8.0	81.6	8.0
LYMP #	1.2	0.2	2.2	0.4	2.7	0.9
MONO #	0.2	0.2	0.7	0.5	1.0	0.4
GRAN #	0.6	0.2	4.9	0.8	16.6	1.1

Avantor BeneSphera™ H32

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.0	0.4	7.8	0.8	20.3	2.0
RBC 10^{12}/l	2.28	0.15	4.45	0.20	5.28	0.25
Hb g/dl	5.9	0.4	13.8	0.5	18.9	0.6
Hb mmol/l	3.7	0.3	8.4	0.4	11.7	0.5
Hct %	17.5	1.5	39.5	2.4	51.9	3.0
Hct l/l	0.175	0.015	0.395	0.024	0.519	0.030
MCV fl	78.6	4.0	86.9	4.0	95.6	4.0
MCH pg	26.0	2.4	31.0	2.8	35.8	2.8
MCH fmol	1.61	0.2	1.88	0.2	2.22	0.2
MCHC g/dl	33.9	3.0	34.9	3.0	36.5	3.0
MCHC mmol/l	21.1	2.0	21.2	2.0	22.6	2.0
RDW-CV %	12.2	3.0	11.9	3.0	11.5	3.0
RDW-SD fl	38.5	5.0	43.5	5.0	47.3	5.0
Plts 10^9/l	66	20	235	35	536	60
MPV fl	9.9	2.0	9.6	2.0	9.4	2.0
PCT %	0.07	0.02	0.23	0.06	0.50	0.10
PCT ml/l	0.65	0.20	2.25	0.30	5.04	0.40
PDW %	9.0	3.0	12.1	3.0	12.8	3.0
LYMP %	59.9	8.0	28.8	5.0	13.4	4.0
MONO %	9.8	6.0	8.8	5.0	5.0	5.0
GRAN %	30.3	6.0	62.4	8.0	81.6	8.0
LYMP #	1.2	0.2	2.2	0.4	2.7	0.9
MONO #	0.2	0.2	0.7	0.5	1.0	0.4
GRAN #	0.6	0.2	4.9	0.8	16.6	1.1

ERMA PCE-170, ERMAX-18, PCE-210

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	1.9	0.4	7.8	0.8	20.4	2.0
RBC 10^{12}/l	2.28	0.15	4.69	0.20	5.33	0.25
Hb g/dl	5.9	0.4	13.5	0.5	17.8	0.6
Hb mmol/l	3.7	0.3	8.4	0.4	11.1	0.5
Hct %	17.5	1.5	41.5	2.4	54.1	3.0
Hct l/l	0.175	0.015	0.415	0.024	0.541	0.030
MCV fl	76.6	4.0	88.6	4.0	101.4	4.0
MCH pg	26.0	2.4	28.8	2.8	33.4	2.8
MCH fmol	1.61	0.16	1.79	0.17	2.07	0.19
MCHC g/dl	33.9	3.0	32.5	3.0	33.0	3.0
MCHC mmol/l	21.1	2.0	20.2	2.0	20.5	2.0
RDW %	16.5	3.0	16.1	3.0	15.5	3.0
Plts 10^9/l	84	20	241	35	490	60
MPV fl	8.0	2.0	8.3	2.0	8.4	2.0
PDW %	17.2	3.0	16.4	3.0	16.8	3.0
LYMP %	64.9	9.0	32.9	4.0	17.2	4.0
MONO %	3.0	3.0	7.9	7.9	3.0	3.0
GRAN %	32.1	5.0	59.2	9.0	79.8	10.0
LYMP #	1.2	0.2	2.6	0.4	3.5	0.9
MONO #	0.2	0.2	0.6	0.6	0.6	0.6
GRAN #	0.6	0.2	4.6	0.4	16.3	1.1

Urit 2900 Plus

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	1.9	0.4	7.8	0.8	22.3	2.0
RBC 10^{12}/l	2.28	0.15	4.67	0.20	5.68	0.25
Hb g/dl	5.8	0.4	13.2	0.5	16.8	0.6
Hb mmol/l	3.6	0.3	8.2	0.4	10.4	0.5
Hct %	16.9	1.5	37.8	2.4	48.1	3.0
Hct l/l	0.169	0.015	0.378	0.024	0.481	0.030
MCV fl	74.1	4.0	80.9	4.0	84.6	4.0
MCH pg	25.6	2.4	28.3	2.8	29.6	2.8
MCH fmol	1.59	0.2	1.75	0.2	1.84	0.2
MCHC g/dl	34.5	3.0	35.0	3.0	35.0	3.0
MCHC mmol/l	21.4	2.0	21.7	2.0	21.7	2.0
RDW-CV %	15.0	3.0	15.1	3.0	15.2	3.0
RDW-SD fl	24.5	5.0	33.5	5.0	47.3	5.0
Plts 10^9/l	73	20	227	35	416	60
MPV fl	16.9	2.0	13.5	2.0	12.8	2.0
PCT %	0.12	0.02	0.31	0.06	0.53	0.10
PCT ml/l	1.23	0.20	3.06	0.30	5.32	0.40
PDW %	13.5	3.0	13.8	3.0	14.3	3.0
LYMP %	64.9	8.0	31.0	5.0	14.2	4.0
MONO %	3.0	3.0	5.6	5.6	2.3	2.3
GRAN %	32.1	6.0	63.4	8.0	83.5	8.0
LYMP #	1.2	0.2	2.4	0.4	3.2	0.9
MONO #	0.1	0.1	0.4	0.4	0.5	0.5
GRAN #	0.6	0.2	4.9	0.8	18.6	1.1

Assay Value Sheet

Assay values 3-Diff Controls
Combined US and SI Units

D0000803
Version 22.0

LOT : 210

: 2015-02-19

Mindray BC-3200, BC-3000CT

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.1	0.5	8.1	1.0	21.6	2.5
RBC 10^{12}/l	2.35	0.18	4.68	0.24	5.67	0.30
Hb g/dl	6.0	0.4	13.8	0.6	18.7	0.8
Hb mmol/l	3.7	0.3	8.6	0.4	11.6	0.5
Hct %	18.1	1.5	41.2	2.0	55.0	2.4
Hct l/l	0.181	0.015	0.412	0.020	0.550	0.024
MCV fl	77.0	5.0	88.0	5.0	97.0	5.0
MCH pg	25.5	2.5	29.5	2.5	33.0	2.5
MCH fmol	1.58	0.16	1.83	0.16	2.05	0.16
MCHC g/dl	33.2	3.0	33.5	3.0	34.0	3.0
MCHC mmol/l	20.6	2.0	20.8	2.0	21.1	2.0
RDW-CV	14.5	3.0	14.0	3.0	13.5	3.0
RDW-SD	36.0	6.0	39.0	6.0	42.0	8.0
Plts 10^9/l	84	24	252	40	535	60
MPV fl	8.3	3.0	8.1	3.0	7.9	3.0
LYMP %	63.0	12.0	29.0	8.0	14.0	6.0
MONO %	6.0	5.0	8.5	7.0	4.0	3.5
GRAN %	31.0	9.0	62.5	8.0	82.0	8.0
LYMP #	1.3	0.3	2.3	0.7	3.0	1.3
MONO #	0.1	0.1	0.7	0.6	0.9	0.8
GRAN #	0.7	0.3	5.1	0.7	17.7	1.8

Mindray BC-2800, BC-2600 (software version 2.0 or higher)

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.0	0.5	7.9	1.0	21.1	2.5
RBC 10^{12}/l	2.29	0.18	4.63	0.24	5.60	0.30
Hb g/dl	6.1	0.4	13.9	0.6	18.8	0.8
Hb mmol/l	3.8	0.3	8.6	0.4	11.7	0.5
Hct %	17.5	1.5	40.5	2.0	53.8	2.4
Hct l/l	0.175	0.015	0.405	0.020	0.538	0.024
MCV fl	76.5	5.0	87.5	5.0	96.0	5.0
MCH pg	26.6	2.5	30.0	2.5	33.6	2.5
MCH fmol	1.65	0.16	1.86	0.16	2.08	0.16
MCHC g/dl	34.8	3.0	34.3	3.0	35.0	3.0
MCHC mmol/l	21.6	2.0	21.3	2.0	21.7	2.0
RDW-CV	16.5	3.0	15.5	3.0	15.0	3.0
RDW-SD	42.0	6.0	45.0	6.0	47.0	8.0
Plts 10^9/l	80	24	260	40	538	60
MPV fl	10.0	3.0	9.7	3.0	9.6	3.0
PCT %	0.08	0.05	0.25	0.10	0.51	0.20
PCT ml/l	0.80	0.50	2.50	1.00	5.10	2.00
PDW fl	15.1	3.0	14.9	3.0	14.8	3.0
LYMP %	63.5	10.0	31.0	8.0	16.0	7.0
MONO %	7.0	6.0	7.5	6.0	3.0	3.0
GRAN %	29.5	9.0	61.5	9.0	81.0	8.0
LYMP #	1.3	0.3	2.4	0.7	3.4	1.5
MONO #	0.1	0.1	0.6	0.5	0.6	0.6
GRAN #	0.6	0.2	4.9	0.8	17.1	1.7

Mindray BC-3600, BC-3300

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.0	0.5	7.7	1.0	20.7	2.5
RBC 10^{12}/l	2.35	0.18	4.75	0.24	5.78	0.30
Hb g/dl	6.1	0.4	13.7	0.6	18.6	0.8
Hb mmol/l	3.8	0.3	8.5	0.4	11.5	0.5
Hct %	18.1	1.5	40.6	2.0	54.0	2.4
Hct l/l	0.181	0.015	0.406	0.020	0.540	0.024
MCV fl	77.0	5.0	85.5	5.0	93.5	5.0
MCH pg	26.0	2.5	28.8	2.5	32.2	2.5
MCH fmol	1.61	0.16	1.79	0.16	2.00	0.16
MCHC g/dl	33.7	3.0	33.7	3.0	34.4	3.0
MCHC mmol/l	20.9	2.0	20.9	2.0	21.4	2.0
RDW-CV	16.0	3.0	15.0	3.0	14.0	3.0
RDW-SD	35.0	6.0	39.0	6.0	42.0	8.0
Plts 10^9/l	75	20	264	40	575	60
MPV fl	9.0	3.0	9.0	3.0	9.0	3.0
PCT %	0.07	0.05	0.24	0.10	0.51	0.20
PCT ml/l	0.70	0.50	2.40	1.00	5.10	2.00
PDW fl	15.1	3.0	15.5	3.0	15.9	3.0
P-LCC	23.0	10.0	80.0	22.0	166.0	30.0
P-LCR	30.0	9.0	30.0	9.0	28.0	9.0
LYMP %	59.5	12.0	30.0	8.0	15.0	8.0
MONO %	11.0	8.0	8.5	6.0	4.0	3.0
GRAN %	29.5	9.0	61.5	8.0	81.0	8.0
LYMP #	1.2	0.3	2.3	0.7	3.1	1.7
MONO #	0.2	0.2	0.7	0.5	0.8	0.6
GRAN #	0.6	0.2	4.7	0.7	16.8	1.7

Mindray BC-3000 Plus (s/n A75xxx) , BC-2900, BC-1800, Hemolux

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.0	0.5	8.1	1.0	21.2	2.5
RBC 10^{12}/l	2.37	0.18	4.72	0.24	5.67	0.30
Hb g/dl	6.0	0.4	13.8	0.6	18.6	0.8
Hb mmol/l	3.7	0.3	8.6	0.4	11.5	0.5
Hct %	18.4	1.5	41.8	2.0	54.7	2.4
Hct l/l	0.184	0.015	0.418	0.020	0.547	0.024
MCV fl	77.5	5.0	88.5	5.0	96.5	5.0
MCH pg	25.3	2.5	29.2	2.5	32.8	2.5
MCH fmol	1.57	0.16	1.81	0.16	2.04	0.16
MCHC g/dl	32.7	3.0	33.0	3.0	34.0	3.0
MCHC mmol/l	20.2	2.0	20.5	2.0	21.1	2.0
RDW-CV	15.7	3.0	15.2	3.0	14.7	3.0
RDW-SD	39.0	6.0	42.0	6.0	45.0	8.0
Plts 10^9/l	82	24	256	40	550	60
MPV fl	8.8	3.0	8.7	3.0	8.6	3.0
PCT %	0.07	0.05	0.22	0.10	0.46	0.20
PCT ml/l	0.70	0.50	2.20	1.00	4.60	2.00
PDW fl	16.2	3.0	15.8	3.0	15.7	3.0
LYMP %	64.5	12.0	30.0	8.0	14.5	6.0
MONO %	5.0	4.0	8.0	7.0	4.0	3.5
GRAN %	30.5	9.0	62.0	8.0	81.5	8.0
LYMP #	1.3	0.3	2.4	0.7	3.1	1.3
MONO #	0.1	0.1	0.6	0.6	0.8	0.7
GRAN #	0.6	0.2	5.0	0.7	17.3	1.7

Mindray: BC-3000 with CyMet Mindray CN-free (old models s/n A59xxx)

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.2	0.5	7.8	1.0	19.7	2.5
RBC 10^{12}/l	2.13	0.18	4.38	0.24	5.42	0.30
Hb g/dl **	6.1	0.4	14.4	0.6	19.2	0.8
Hb mmol/l **	3.8	0.3	8.9	0.4	11.9	0.5
Hct %	17.6	1.5	40.2	2.0	53.5	2.4
Hct l/l	0.176	0.015	0.402	0.020	0.535	0.024
MCV fl	82.6	5.0	91.9	5.0	98.6	5.0
MCH pg **	28.8	2.5	32.9	2.5	35.5	2.5
MCH fmol **	1.79	0.16	2.04	0.16	2.20	0.16
MCHC g/dl **	34.8	3.0	35.8	3.0	36.0	3.0
MCHC mmol/l **	21.6	2.0	22.2	2.0	22.3	2.0
RDW-CV	15.3	3.0	15.4	3.0	15.3	3.0
RDW-SD	45.1	6.0	50.4	6.0	53.7	8.0
Plts 10^9/l	81	24	229	40	494	60
MPV fl	8.7	3.0	9.1	3.0	8.9	3.0
LYMP %	65.2	12.0	29.9	8.0	14.7	6.0
MONO %	6.3	4.0	7.9	7.9	3.0	3.0
GRAN %	28.5	9.0	62.2	8.0	82.3	8.0
LYMP #	1.4	0.3	2.3	0.7	2.9	1.3
MONO #	0.1	0.1	0.6	0.6	0.6	0.6
GRAN #	0.6	0.2	4.9	0.7	16.2	1.7

**** Mindray: BC-3000 with CyMet Mindray (with CN) (old series s/n A59xxx)**

Hb g/dl	5.8	0.4	13.4	0.6	17.9	0.8
Hb mmol/l	3.6	0.3	8.3	0.4	11.1	0.5
MCH pg	27.4	2.5	30.6	2.5	33.1	2.5
MCH fmol	1.70	0.16	1.90	0.16	2.05	0.16
MCHC g/dl	33.1	3.0	33.3	3.0	33.5	3.0
MCHC mmol/l	20.6	2.0	20.7	2.0	20.8	2.0

Mindray BC-2300, BC-2100

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.0	0.5	7.9	1.0	21.5	2.5
RBC 10^{12}/l	2.27	0.18	4.56	0.24	5.44	0.30
Hb g/dl	6.2	0.4	13.8	0.6	18.4	0.8
Hb mmol/l	3.8	0.3	8.6	0.4	11.4	0.5
Hct %	16.9	1.5	39.1	2.0	51.1	2.4
Hct l/l	0.169	0.015	0.391	0.020	0.511	0.024
MCV fl	74.5	5.0	85.8	5.0	93.9	5.0
MCH pg	27.2	2.5	30.3	2.5	33.7	2.5
MCH fmol	1.69	0.16	1.88	0.16	2.09	0.16
MCHC g/dl	36.5	3.0	35.3	3.0	35.9	3.0
MCHC mmol/l	22.7	1.9	21.9	1.9	22.3	1.9
RDW-CV	14.5	3.0	14.0	3.0	13.4	3.0
RDW-SD	34.0	8.0	37.9	8.0	40.3	8.0
Plts 10^9/l	70	20	240	40	546	60
MPV fl	10.4	3.0	10.4	3.0	10.4	3.0
PCT %	0.07	0.07	0.25	0.10	0.56	0.20
PCT ml/l	0.73	0.73	2.49	1.00	5.65	2.00
PDW fl	14.4	3.0	14.8	3.0	15.7	3.0
LYMP %	64.5	10.0	31.9	8.0	15.4	7.0
MONO %	5.4	5.4	8.3	8.3	5.0	5.0
GRAN %	30.1	9.0	59.8	9.0	79.7	8.0
LYMP #	1.3	0.2	2.5	0.7	3.3	1.5
MONO #	0.1	0.1	0.7	0.7	1.1	0.9
GRAN #	0.6	0.2	4.7	0.7	17.1	1.7

Assay Value Sheet

AVANTOR PERFORMANCE MATERIALS

Assay values 3-Diff Controls Extended
Combined US and SI Units

2°C 8°C IVD CE

D0000840
Version 12.0

REF : 3421-3422-3423

LOT : 210

: 2015-04-19

Coulter Counter Models (with III Diff. option; for AcT see separate table)
MELET MS9 **NOTE : Please refer to next page for Erma Values**

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.2	0.4	7.8	0.8	20.9	2.0
RBC 10^{12}/l	2.28	0.15	4.55	0.20	5.48	0.25
Hb g/dl	5.9	0.4	13.5	0.5	17.8	0.6
Hb mmol/l	3.7	0.3	8.4	0.4	11.1	0.5
Hct %	17.5	1.5	39.1	2.4	51.3	3.0
Hct l/l	0.175	0.015	0.391	0.024	0.513	0.030
MCV fl	76.6	7.0	85.9	7.0	93.6	7.0
MCH pg	26.0	2.4	29.7	2.8	32.5	2.8
MCH fmol	1.61	0.16	1.84	0.17	2.02	0.19
MCHC g/dl	33.9	3.0	34.6	3.0	34.7	3.0
MCHC mmol/l	21.1	2.0	21.4	2.0	21.6	2.0
RDW %	16.5	3.0	16.1	3.0	15.5	3.0
Plts 10^9/l	74	25	247	40	538	70
MPV fl	8.0	2.0	8.3	2.0	8.4	2.0
PDW %	17.2	3.0	16.4	3.0	16.8	3.0
LYMP %	65.2	6.0	32.9	4.0	17.2	4.0
MONO %	6.3	4.0	7.9	6.3	3.0	3.0
GRAN %	28.5	5.0	59.2	5.0	79.8	5.0
LYMP #	1.4	0.2	2.6	0.4	3.6	0.9
MONO #	0.1	0.1	0.6	0.5	0.6	0.4
GRAN #	0.6	0.2	4.6	0.4	16.7	1.1

ABX Roche: Micros 60, Micros ES 60; Bayer: Advia 60

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.3	0.4	7.3	0.8	19.4	2.0
RBC 10^{12}/l	2.28	0.15	4.51	0.20	5.48	0.25
Hb g/dl	5.6	0.4	13.5	0.5	17.8	0.6
Hb mmol/l	3.5	0.3	8.4	0.4	11.0	0.5
Hct %	16.2	1.5	37.7	2.4	50.7	3.0
Hct l/l	0.162	0.015	0.377	0.024	0.507	0.030
MCV fl	71.1	7.0	83.5	7.0	92.6	7.0
MCH pg	24.6	2.4	29.9	2.8	32.4	2.8
MCH fmol	1.53	0.16	1.85	0.17	2.01	0.19
MCHC g/dl	34.6	3.0	35.8	3.0	35.0	3.0
MCHC mmol/l	21.5	2.0	22.2	2.0	21.7	2.0
RDW %	15.1	3.0	16.5	3.0	15.9	3.0
Plts 10^9/l	81	25	244	40	503	70
MPV fl	7.6	2.0	7.9	2.0	7.9	2.0
LYMP %	56.4	6.0	29.2	4.0	15.7	4.0
MONO %	6.0	4.0	7.8	6.3	2.4	3.0
GRAN %	37.6	5.0	63.0	5.0	82.0	5.0
LYMP #	1.3	0.2	2.1	0.4	3.0	0.9
MONO #	0.1	0.1	0.6	0.6	0.5	0.5
GRAN #	0.9	0.2	4.6	0.4	15.9	1.1

Abbott Cell-Dyn: 1300, 1500, 1600, 1700, 1800 series

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.4	0.4	7.5	0.8	18.8	2.0
RBC 10^{12}/l	2.31	0.15	4.51	0.20	5.37	0.25
Hb g/dl	5.8	0.4	13.3	0.5	17.6	0.6
Hb mmol/l	3.6	0.3	8.3	0.4	10.9	0.5
Hct %	17.7	1.5	39.2	2.4	50.8	3.0
Hct l/l	0.177	0.015	0.392	0.024	0.508	0.030
MCV fl	76.6	7.0	86.9	7.0	94.6	7.0
MCH pg	25.2	2.4	29.5	2.8	32.8	2.8
MCH fmol	1.57	0.16	1.83	0.17	2.04	0.19
MCHC g/dl	32.9	3.0	33.9	3.0	34.7	3.0
MCHC mmol/l	20.4	2.0	21.1	2.0	21.5	2.0
Plts 10^9/l	70	25	242	40	525	70
MPV fl	8.9	2.0	8.8	2.0	8.6	2.0
LYMP %	65.2	6.0	32.9	4.0	17.2	4.0
MID %	6.3	4.0	7.9	6.3	3.0	3.0
GRAN %	28.5	5.0	59.2	5.0	79.8	5.0
LYMP #	1.6	0.2	2.5	0.4	3.2	0.9
MID #	0.2	0.2	0.6	0.5	0.6	0.4
GRAN #	0.7	0.2	4.4	0.4	15.0	1.1

Orphee MYTHIC 18
Please refer now to Danam/Drew table

Coulter Counter: AcT diff, AcT diff 2

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.2	0.4	7.8	0.8	20.8	2.0
RBC 10^{12}/l	2.28	0.15	4.55	0.20	5.48	0.25
Hb g/dl	5.9	0.4	13.5	0.5	17.8	0.6
Hb mmol/l	3.7	0.3	8.4	0.4	11.1	0.5
Hct %	17.5	1.5	39.5	2.4	51.9	3.0
Hct l/l	0.175	0.015	0.395	0.024	0.519	0.030
MCV fl	76.6	7.0	86.9	7.0	94.6	7.0
MCH pg	26.0	2.4	29.7	2.8	32.5	2.8
MCH fmol	1.61	0.16	1.84	0.17	2.02	0.19
MCHC g/dl	33.9	3.0	34.2	3.0	34.4	3.0
MCHC mmol/l	21.1	2.0	21.2	2.0	21.3	2.0
RDW %	16.5	3.0	16.1	3.0	15.5	3.0
Plts 10^9/l	74	25	245	40	536	70
MPV fl	8.0	2.0	8.3	2.0	8.4	2.0
LYMP %	66.9	6.0	32.5	4.0	15.9	4.0
MONO %	3.5	4.0	6.3	6.3	2.1	3.0
GRAN %	29.6	5.0	61.2	5.0	82.0	5.0
LYMP #	1.5	0.2	2.5	0.4	3.3	0.9
MONO #	0.1	0.1	0.5	0.5	0.4	0.4
GRAN #	0.7	0.2	4.8	0.4	17.1	1.1

Coulter Counter: AcT 8, AcT 10

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
Please refer to Table AcT Diff for CBC parameters						
LYMP %	53.3	6.0	24.4	4.0	11.4	4.0
LYMP #	1.1	0.2	1.9	0.4	2.4	0.8

Nihon Kohden: Celltac and MEK series (not for 5-part diff)

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.2	0.4	7.8	0.8	20.9	2.0
RBC 10^{12}/l	2.26	0.15	4.55	0.20	5.40	0.25
Hb g/dl	6.0	0.4	13.8	0.5	18.5	0.6
Hb mmol/l	3.8	0.3	8.6	0.4	11.5	0.5
Hct %	17.3	1.5	39.7	2.4	52.0	3.0
Hct l/l	0.173	0.015	0.397	0.024	0.520	0.030
MCV fl	76.6	7.0	87.3	7.0	96.4	7.0
MCH pg	26.8	2.4	30.3	2.8	34.3	2.8
MCH fmol	1.66	0.16	1.88	0.17	2.13	0.19
MCHC g/dl	34.9	3.0	34.7	3.0	35.6	3.0
MCHC mmol/l	21.7	2.0	21.5	2.0	22.1	2.0
RDW %	15.4	3.0	15.5	3.0	14.7	3.0
Plts 10^9/l	76	25	251	40	559	70
MPV fl	8.0	2.0	7.2	2.0	6.9	2.0
LYMP %	69.5	8.0	34.2	4.0	20.1	4.0
MONO %	7.9	7.0	8.6	6.3	2.9	3.0
GRAN %	22.6	8.0	57.2	5.0	77.0	5.0
LYMP #	1.5	0.2	2.7	0.4	4.2	0.9
MONO #	0.2	0.2	0.7	0.5	0.6	0.4
GRAN #	0.5	0.4	4.5	0.4	16.1	1.1

Danam/Drew Excel18=MWI BT2100, D3; Orphee Mythic 18; Abbott Emerald 18

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.1	0.4	7.8	0.8	19.9	2.0
RBC 10^{12}/l	2.28	0.15	4.55	0.20	5.48	0.25
Hb g/dl	5.7	0.4	13.5	0.5	17.8	0.6
Hb mmol/l	3.6	0.3	8.4	0.4	11.1	0.5
Hct %	16.9	1.5	39.5	2.4	52.1	3.0
Hct l/l	0.169	0.015	0.395	0.024	0.521	0.030
MCV fl	74.3	7.0	86.9	7.0	95.0	7.0
MCH pg	25.1	2.4	29.7	2.8	32.5	2.8
MCH fmol	1.56	0.16	1.84	0.17	2.02	0.19
MCHC g/dl	33.8	3.0	34.1	3.0	34.2	3.0
MCHC mmol/l	21.0	2.0	21.2	2.0	21.2	2.0
RDW	14.6	3.0	13.5	3.0	13.0	3.0
Plts 10^9/l	74	25	230	40	499	70
MPV fl	8.0	2.0	8.3	2.0	8.4	2.0
LYMP %	63.2	6.0	29.7	4.0	15.8	4.0
MONO %	5.3	5.3	4.8	4.8	1.0	1.0
GRAN %	31.5	5.0	65.5	5.0	83.2	5.0
LYMP #	1.3	0.2	2.3	0.4	3.1	0.9
MONO #	0.1	0.1	0.4	0.4	0.2	0.2
GRAN #	0.7	0.2	5.1	0.4	16.6	1.1

Assay Value Sheet

Assay values 3-Diff Controls Extended
Combined US and SI Units

D0000840

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Version 12.0

The devices as mentioned in this insert comply with the
In Vitro Diagnostic Medical Devices Directive 98/79/EC.

LOT : 210

: 2015-04-19

Diatron: Abacus, Abacus 3, Abacus Junior, Arcus; Erba: Elite 3**

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.1	0.4	7.6	0.8	20.9	2.0
RBC 10^{12}/l	2.33	0.15	4.69	0.20	5.73	0.25
Hb g/dl	6.0	0.4	13.6	0.5	18.4	0.6
Hb mmol/l	3.7	0.3	8.5	0.4	11.4	0.5
Hct %	18.6	1.5	42.6	2.4	57.1	3.0
Hct l/l	0.186	0.015	0.426	0.024	0.571	0.030
MCV fl	79.8	7.0	90.9	7.0	99.7	7.0
MCH pg	25.8	2.4	29.0	2.8	32.1	2.8
MCH fmol	1.60	0.16	1.80	0.17	1.99	0.19
MCHC g/dl	32.3	3.0	31.9	3.0	32.2	3.0
MCHC mmol/l	20.0	2.0	19.8	2.0	20.0	2.0
RDW-SD fl	58.8	5.0	63.1	5.0	67.3	5.0
RDW-CV %	16.2	3.0	15.3	3.0	14.9	3.0
Plts 10^9/l	68	25	247	40	538	70
MPV fl	7.8	2.0	8.3	2.0	8.0	2.0
PCT %	0.05	0.02	0.20	0.06	0.43	0.10
PCT ml/l	0.53	0.20	2.05	0.30	4.32	0.40
PDW-SD fl	9.9	2.5	10.9	2.5	11.0	2.5
PDW-CV %	35.3	5.0	36.9	5.0	38.4	5.0
LYMP %	60.7	6.0	30.9	4.0	13.7	4.0
MONO %	5.1	5.1	7.3	7.3	3.9	3.9
GRAN %	34.2	6.0	61.9	1.0	82.5	6.0
LYMP #	1.3	0.2	2.4	0.4	2.9	0.9
MONO #	0.2	0.2	0.6	0.6	0.8	0.4
GRAN #	0.7	0.2	4.7	0.4	17.2	1.1

**** JT Baker reagents CyMet Abacus+Diluid Abacus=Use Reagent Code 2 in service settings!**

AVL (Contraves): AVL - 816

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
Please refer to Table Coulter Counters for CBC parameters						
LYMP %	70.5	6.0	39.2	4.0	20.4	4.0
MONO %	5.8	4.0	9.0	6.3	3.8	3.0
GRAN %	23.7	5.0	51.8	5.0	75.7	5.0
LYMP #	1.6	0.2	3.1	0.4	4.3	0.9
MONO #	0.1	0.1	0.7	0.7	0.8	0.4
GRAN #	0.5	0.2	4.0	0.4	15.8	1.1

AVL (Contraves): AVL - 818

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
Please refer to Table Coulter Counters for CBC parameters						
LYMP %	79.2	6.0	41.3	4.0	21.5	4.0
MONO %	5.1	4.0	8.4	6.3	3.7	3.0
GRAN %	15.8	5.0	50.4	5.0	74.8	5.0
LYMP #	1.7	0.2	3.2	0.4	4.5	0.9
MONO #	0.1	0.1	0.7	0.7	0.8	0.4
GRAN #	0.3	0.2	3.9	0.4	15.6	1.1

Inmesco HM1060; Rayto RT-7600; HTI Micros CC 20 Plus

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.0	0.4	7.8	0.8	20.3	2.0
RBC 10^{12}/l	2.28	0.15	4.45	0.20	5.28	0.25
Hb g/dl	5.9	0.4	13.8	0.5	18.9	0.6
Hb mmol/l	3.7	0.3	8.4	0.4	11.7	0.5
Hct %	17.5	1.5	39.5	2.4	51.9	3.0
Hct l/l	0.175	0.015	0.395	0.024	0.519	0.030
MCV fl	78.6	7.0	86.9	7.0	95.6	7.0
MCH pg	26.0	2.4	31.0	2.8	35.8	2.8
MCH fmol	1.61	0.2	1.88	0.2	2.22	0.2
MCHC g/dl	33.9	3.0	34.9	3.0	36.5	3.0
MCHC mmol/l	21.1	2.0	21.2	2.0	22.6	2.0
RDW CV-%	12.2	3.0	11.9	3.0	11.5	3.0
RDW-SD fl	38.5	5.0	43.5	5.0	47.3	5.0
Plts 10^9/l	66	25	235	40	536	70
MPV fl	9.9	2.0	9.6	2.0	9.4	2.0
PCT %	0.07	0.02	0.23	0.06	0.50	0.1
PCT ml/l	0.65	0.20	2.25	0.30	5.04	0.40
PDW %	9.0	3.0	12.1	3.0	12.8	3.0
LYMP %	59.9	8.0	28.8	5.0	13.4	4.0
MONO %	9.8	6.0	8.8	5.0	5.0	5.0
GRAN %	30.3	6.0	62.4	8.0	81.6	8.0
LYMP #	1.2	0.2	2.2	0.4	2.7	0.9
MONO #	0.2	0.2	0.7	0.5	1.0	0.4
GRAN #	0.6	0.2	4.9	0.8	16.6	1.1

Avantor BeneSphera™ H32

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.0	0.4	7.8	0.8	20.3	2.0
RBC 10^{12}/l	2.28	0.15	4.45	0.20	5.28	0.25
Hb g/dl	5.9	0.4	13.8	0.5	18.9	0.6
Hb mmol/l	3.7	0.3	8.4	0.4	11.7	0.5
Hct %	17.5	1.5	39.5	2.4	51.9	3.0
Hct l/l	0.175	0.015	0.395	0.024	0.519	0.030
MCV fl	78.6	7.0	86.9	7.0	95.6	7.0
MCH pg	26.0	2.4	31.0	2.8	35.8	2.8
MCH fmol	1.61	0.2	1.88	0.2	2.22	0.2
MCHC g/dl	33.9	3.0	34.9	3.0	36.5	3.0
MCHC mmol/l	21.1	2.0	21.2	2.0	22.6	2.0
RDW CV-%	12.2	3.0	11.9	3.0	11.5	3.0
RDW-SD fl	38.5	5.0	43.5	5.0	47.3	5.0
Plts 10^9/l	66	25	235	40	536	70
MPV fl	9.9	2.0	9.6	2.0	9.4	2.0
PCT %	0.07	0.02	0.23	0.06	0.50	0.10
PCT ml/l	0.65	0.20	2.25	0.30	5.04	0.40
PDW %	9.0	3.0	12.1	3.0	12.8	3.0
LYMP %	59.9	8.0	28.8	5.0	13.4	4.0
MONO %	9.8	6.0	8.8	5.0	5.0	5.0
GRAN %	30.3	6.0	62.4	8.0	81.6	8.0
LYMP #	1.2	0.2	2.2	0.4	2.7	0.9
MONO #	0.2	0.2	0.7	0.5	1.0	0.4
GRAN #	0.6	0.2	4.9	0.8	16.6	1.1

ERMA PCE-170, ERMAX-18, PCE-210

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	1.9	0.4	7.8	0.8	20.4	2.0
RBC 10^{12}/l	2.28	0.15	4.69	0.20	5.33	0.25
Hb g/dl	5.9	0.4	13.5	0.5	17.8	0.6
Hb mmol/l	3.7	0.3	8.4	0.4	11.1	0.5
Hct %	17.5	1.5	41.5	2.4	54.1	3.0
Hct l/l	0.175	0.015	0.415	0.024	0.541	0.030
MCV fl	76.6	7.0	88.6	7.0	101.4	7.0
MCH pg	26.0	2.4	28.8	2.8	33.4	2.8
MCH fmol	1.61	0.16	1.79	0.17	2.07	0.19
MCHC g/dl	33.9	3.0	32.5	3.0	33.0	3.0
MCHC mmol/l	21.1	2.0	20.2	2.0	20.5	2.0
RDW %	16.5	3.0	16.1	3.0	15.5	3.0
Plts 10^9/l	84	25	241	40	490	70
MPV fl	8.0	2.0	8.3	2.0	8.4	2.0
PDW %	17.2	3.0	16.4	3.0	16.8	3.0
LYMP %	64.9	9.0	32.9	4.0	17.2	4.0
MONO %	3.0	3.0	7.9	7.9	3.0	3.0
GRAN %	32.1	5.0	59.2	9.0	79.8	10.0
LYMP #	1.2	0.2	2.6	0.4	3.5	0.9
MONO #	0.2	0.2	0.6	0.6	0.6	0.6
GRAN #	0.6	0.2	4.6	0.4	16.3	1.1

Urit 2900 Plus

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	1.9	0.4	7.8	0.8	22.3	2.0
RBC 10^{12}/l	2.28	0.15	4.67	0.20	5.68	0.25
Hb g/dl	5.8	0.4	13.2	0.5	16.8	0.6
Hb mmol/l	3.6	0.3	8.2	0.4	10.4	0.5
Hct %	16.9	1.5	37.8	2.4	48.1	3.0
Hct l/l	0.169	0.015	0.378	0.024	0.481	0.030
MCV fl	74.1	7.0	80.9	7.0	84.6	7.0
MCH pg	25.6	2.4	28.3	2.8	29.6	2.8
MCH fmol	1.59	0.2	1.75	0.2	1.84	0.2
MCHC g/dl	34.5	3.0	35.0	3.0	35.0	3.0
MCHC mmol/l	21.4	2.0	21.7	2.0	21.7	2.0
RDW-CV %	15.0	3.0	15.1	3.0	15.2	3.0
RDW-SD fl	24.5	5.0	33.5	5.0	47.3	5.0
Plts 10^9/l	73	25	227	40	416	70
MPV fl	16.9	2.0	13.5	2.0	12.8	2.0
PCT %	0.12	0.02	0.31	0.06	0.53	0.10
PCT ml/l	1.23	0.20	3.06	0.30	5.32	0.40
PDW %	13.5	3.0	13.8	3.0	14.3	3.0
LYMP %	64.9	8.0	31.0	5.0	14.2	4.0
MONO %	3.0	3.0	5.6	5.6	2.3	2.3
GRAN %	32.1	6.0	63.4	8.0	83.5	8.0
LYMP #	1.2	0.2	2.4	0.4	3.2	0.9
MONO #	0.1	0.1	0.4	0.4	0.5	0.5
GRAN #	0.6	0.2	4.9	0.8	18.6	1.1

Assay Value Sheet

Assay values 3-Diff Controls Extended
Combined US and SI Units

D0000840
Version 12.0

LOT : 210

: 2015-04-19

Mindray BC-3200, BC-3000CT

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.1	0.5	8.1	1.0	21.6	2.5
RBC 10^{12}/l	2.35	0.18	4.68	0.24	5.67	0.30
Hb g/dl	6.0	0.4	13.8	0.6	18.7	0.8
Hb mmol/l	3.7	0.3	8.6	0.4	11.6	0.5
Hct %	18.1	1.5	41.2	2.0	55.0	2.4
Hct l/l	0.181	0.015	0.412	0.020	0.550	0.024
MCV fl	77.0	7.0	88.0	7.0	97.0	7.0
MCH pg	25.5	2.5	29.5	2.5	33.0	2.5
MCH fmol	1.58	0.16	1.83	0.16	2.05	0.16
MCHC g/dl	33.2	3.0	33.5	3.0	34.0	3.0
MCHC mmol/l	20.6	2.0	20.8	2.0	21.1	2.0
RDW-CV	14.5	3.0	14.0	3.0	13.5	3.0
RDW-SD	36.0	6.0	39.0	6.0	42.0	8.0
Plts 10^9/l	84	25	252	40	535	70
MPV fl	8.3	3.0	8.1	3.0	7.9	3.0
LYMP %	63.0	12.0	29.0	8.0	14.0	6.0
MONO %	6.0	5.0	8.5	7.0	4.0	3.5
GRAN %	31.0	9.0	62.5	8.0	82.0	8.0
LYMP #	1.3	0.3	2.3	0.7	3.0	1.3
MONO #	0.1	0.1	0.7	0.6	0.9	0.8
GRAN #	0.7	0.3	5.1	0.7	17.7	1.8

Mindray BC-2800, BC-2600 (software version 2.0 or higher)

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.0	0.5	7.9	1.0	21.1	2.5
RBC 10^{12}/l	2.29	0.18	4.63	0.24	5.60	0.30
Hb g/dl	6.1	0.4	13.9	0.6	18.8	0.8
Hb mmol/l	3.8	0.3	8.6	0.4	11.7	0.5
Hct %	17.5	1.5	40.5	2.0	53.8	2.4
Hct l/l	0.175	0.015	0.405	0.020	0.538	0.024
MCV fl	76.5	7.0	87.5	7.0	96.0	7.0
MCH pg	26.6	2.5	30.0	2.5	33.6	2.5
MCH fmol	1.65	0.16	1.86	0.16	2.08	0.16
MCHC g/dl	34.8	3.0	34.3	3.0	35.0	3.0
MCHC mmol/l	21.6	2.0	21.3	2.0	21.7	2.0
RDW-CV	16.5	3.0	15.5	3.0	15.0	3.0
RDW-SD	42.0	6.0	45.0	6.0	47.0	8.0
Plts 10^9/l	80	25	260	40	538	70
MPV fl	10.0	3.0	9.7	3.0	9.6	3.0
PCT %	0.08	0.05	0.25	0.10	0.52	0.20
PCT ml/l	0.80	0.50	2.52	1.00	5.16	2.00
PDW fl	15.1	3.0	14.9	3.0	14.8	3.0
LYMP %	63.5	10.0	31.0	8.0	16.0	7.0
MONO %	7.0	6.0	7.5	6.0	3.0	3.0
GRAN %	29.5	9.0	61.5	9.0	81.0	8.0
LYMP #	1.3	0.3	2.4	0.7	3.4	1.5
MONO #	0.1	0.1	0.6	0.5	0.6	0.6
GRAN #	0.6	0.2	4.9	0.8	17.1	1.7

Mindray BC-3600, BC-3300

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.0	0.5	7.7	1.0	20.7	2.5
RBC 10^{12}/l	2.35	0.18	4.75	0.24	5.78	0.30
Hb g/dl	6.1	0.4	13.7	0.6	18.6	0.8
Hb mmol/l	3.8	0.3	8.5	0.4	11.5	0.5
Hct %	18.1	1.5	40.6	2.0	54.0	2.4
Hct l/l	0.181	0.015	0.406	0.020	0.540	0.024
MCV fl	77.0	5.0	85.5	5.0	93.5	5.0
MCH pg	26.0	2.5	28.8	2.5	32.2	2.5
MCH fmol	1.61	0.16	1.79	0.16	2.00	0.16
MCHC g/dl	33.7	3.0	33.7	3.0	34.4	3.0
MCHC mmol/l	20.9	2.0	20.9	2.0	21.4	2.0
RDW-CV	16.0	3.0	15.0	3.0	14.0	3.0
RDW-SD	35.0	6.0	39.0	6.0	42.0	8.0
Plts 10^9/l	75	25	264	40	575	70
MPV fl	9.0	3.0	9.0	3.0	9.0	3.0
PCT %	0.07	0.05	0.24	0.10	0.51	0.20
PCT ml/l	0.70	0.50	2.40	1.00	5.10	2.00
PDW fl	15.1	3.0	15.5	3.0	15.9	3.0
P-LCC	23	10	80	22	166	30
P-LCR	30	9	30	9	28	9
LYMP %	59.5	12.0	30.0	8.0	15.0	8.0
MONO %	11.0	8.0	8.5	6.0	4.0	3.0
GRAN %	29.5	9.0	61.5	8.0	81.0	8.0
LYMP #	1.2	0.3	2.3	0.7	3.1	1.7
MONO #	0.2	0.2	0.7	0.5	0.8	0.6
GRAN #	0.6	0.2	4.7	0.7	16.8	1.7

Mindray BC-3000 (s/n A75xxx) , BC-2900, BC-1800, Hemolux

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.0	0.5	8.1	1.0	21.2	2.5
RBC 10^{12}/l	2.37	0.18	4.72	0.24	5.67	0.30
Hb g/dl	6.0	0.4	13.8	0.6	18.6	0.8
Hb mmol/l	3.7	0.3	8.6	0.4	11.5	0.5
Hct %	18.4	1.5	41.8	2.0	54.7	2.4
Hct l/l	0.184	0.015	0.418	0.020	0.547	0.024
MCV fl	77.5	7.0	88.5	7.0	96.5	7.0
MCH pg	25.3	2.5	29.2	2.5	32.8	2.5
MCH fmol	1.57	0.16	1.81	0.16	2.04	0.16
MCHC g/dl	32.7	3.0	33.0	3.0	34.0	3.0
MCHC mmol/l	20.3	2.0	20.5	2.0	21.1	2.0
RDW-CV	15.7	3.0	15.2	3.0	14.7	3.0
RDW-SD	39.0	6.0	42.0	6.0	45.0	8.0
Plts 10^9/l	82	25	256	40	550	70
MPV fl	8.8	3.0	8.7	3.0	8.6	3.0
PCT %	0.07	0.05	0.22	0.10	0.47	0.20
PCT ml/l	0.72	0.50	2.23	1.00	4.73	2.00
PDW fl	16.2	3.0	15.8	3.0	15.7	3.0
LYMP %	64.5	12.0	30.0	8.0	14.5	6.0
MONO %	5.0	4.0	8.0	7.0	4.0	3.5
GRAN %	30.5	9.0	62.0	8.0	81.5	8.0
LYMP #	1.3	0.3	2.4	0.7	3.1	1.3
MONO #	0.1	0.1	0.6	0.6	0.8	0.7
GRAN #	0.6	0.2	5.0	0.7	17.3	1.7

Mindray: BC-3000 with CyMet Mindray CN-free (old models s/n A59xxx)

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.2	0.5	7.8	1.0	19.7	2.5
RBC 10^{12}/l	2.13	0.18	4.38	0.24	5.42	0.30
Hb g/dl **	6.1	0.4	14.4	0.6	19.2	0.8
Hb mmol/l **	3.8	0.3	8.9	0.4	11.9	0.5
Hct %	17.6	1.5	40.2	2.0	53.5	2.4
Hct l/l	0.176	0.015	0.402	0.020	0.535	0.024
MCV fl	82.6	7.0	91.9	7.0	98.6	7.0
MCH pg **	28.8	2.5	32.9	2.5	35.5	2.5
MCH fmol **	1.79	0.16	2.04	0.16	2.20	0.16
MCHC g/dl **	34.8	3.0	35.8	3.0	36.0	3.0
MCHC mmol/l **	21.6	2.0	22.2	2.0	22.3	2.0
RDW-CV	15.3	3.0	15.4	3.0	15.3	3.0
RDW-SD	45.1	6.0	50.4	6.0	53.7	8.0
Plts 10^9/l	81	25	229	40	494	70
MPV fl	8.7	3.0	9.1	3.0	8.9	3.0
LYMP %	65.2	12.0	29.9	8.0	14.7	6.0
MONO %	6.3	4.0	7.9	7.9	3.0	3.0
GRAN %	28.5	9.0	62.2	8.0	82.3	8.0
LYMP #	1.4	0.3	2.3	0.7	2.9	1.3
MONO #	0.1	0.1	0.6	0.6	0.6	0.6
GRAN #	0.6	0.2	4.9	0.7	16.2	1.7

**** Mindray: BC-3000 with CyMet Mindray (with CN) (old series s/n A59xxx)**

Hb g/dl	5.8	0.4	13.4	0.6	17.9	0.8
Hb mmol/l	3.6	0.3	8.3	0.4	11.1	0.5
MCH pg	27.4	2.5	30.6	2.5	33.1	2.5
MCH fmol	1.70	0.16	1.90	0.16	2.05	0.16
MCHC g/dl	33.1	3.0	33.3	3.0	33.5	3.0
MCHC mmol/l	20.6	2.0	20.7	2.0	20.8	2.0

Mindray BC-2300, BC-2100

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/l	2.0	0.5	7.9	1.0	21.5	2.5
RBC 10^{12}/l	2.27	0.18	4.56	0.24	5.44	0.30
Hb g/dl	6.2	0.4	13.8	0.6	18.4	0.8
Hb mmol/l	3.8	0.3	8.6	0.4	11.4	0.5
Hct %	16.9	1.5	39.1	2.0	51.1	2.4
Hct l/l	0.169	0.015	0.391	0.020	0.511	0.024
MCV fl	74.5	7.0	85.8	7.0	93.9	7.0
MCH pg	27.2	2.5	30.3	2.5	33.7	2.5
MCH fmol	1.69	0.16	1.88	0.16	2.09	0.16
MCHC g/dl	36.5	3.0	35.3	3.0	35.9	3.0
MCHC mmol/l	22.7	1.9	21.9	1.9	22.3	1.9
RDW-CV	14.5	3.0	14.0	3.0	13.4	3.0
RDW-SD	34.0	8.0	37.9	8.0	40.3	8.0
Plts 10^9/l	70	25	240	40	546	70
MPV fl	10.4	3.0	10.4	3.0	10.4	3.0
PCT %	0.07	0.06	0.25	0.10	0.56	0.20
PCT ml/l	0.73	0.57	2.49	1.00	5.65	2.00
PDW fl	14.4	3.0	14.8	3.0	15.7	3.0
LYMP %	64.5	10.0	31.9	8.0	15.4	7.0
MONO %	5.4	5.4	8.3	8.3	5.0	5.0
GRAN %	30.1	9.0	59.8	9.0	79.7	8.0
LYMP #	1.3	0.2	2.5	0.7	3.3	1.5
MONO #	0.1	0.1	0.7	0.7	1.1	0.9
GRAN #	0.6	0.2	4.7	0.7	17.1	1.7

Assay Value Sheet

D0000809
Version 6.0

Assay values 5-D Controls (Coulter® 5-part diff controls)
Assay values for Coulter® instruments: STKS / MAXM / HmX / GENS / LH500 / LH750

LOT : 167001
: 19-12-2014
REF : 3681

Level1 LOW

Parameters		Mean	Range ±
WBC	x10^9/L	4.0	0.6
NE%	%	44.0	10.0
NE#	x10^9/L	1.7	0.4
LY%	%	47.0	10.0
LY#	x10^9/L	1.8	0.4
MO%	%	1.5	1.5
MO#	x10^9/L	0.1	0.1
EO%	%	6.5	6.5
EO#	x10^9/L	0.3	0.3
BA%	%	1.0	1.0
BA#	x10^9/L	0.1	0.1
RBC	x10^{12}/L	2.60	0.12
HGB	g/dL	6.8	0.4
HCT	%	21.3	1.5
MCV	fL	82.0	5.0
MCH	pg	26.2	1.8
MCHC	g/dL	31.9	2.4
RDW	%	15.7	5.0
PLT	x10^9/L	85	20
MPV	fL	8.4	2.0
PCT	%	0.068	0.030
PDW	%	16.7	3.0

A00 167001

B00 167001 19-12-2014

C00 167001 4.0 44.0 1.7

D00 167001 47.0 1.8 1.5

E00 167001 0.1 6.5 0.3

F00 167001 1.0 0.1

G00 167001 2.60 6.8 21.3

H00 167001 82.0 26.2 31.9

I00 167001 15.7 85 8.4

J00 167001 0.068 16.7

Notes:
* Ranges must be entered manually into the Coulter control files.
* Barcodes can not be used for the GENS, LH500 and LH750

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Assay Value Sheet

D0000809
Version 6.0

Assay values 5-D Controls (Coulter® 5-part diff controls)

Assay values for Coulter® instruments: STKS / MAXM / HmX / GENS / LH500 / LH750

LOT : 167002

: 19-12-2014

REF : 3682

Level2 NORMAL

Parameters		Mean	Range ±
WBC	$x10^9/L$	9.9	1.2
NE%	%	52.0	9.0
NE#	$x10^9/L$	5.1	0.9
LY%	%	37.0	9.0
LY#	$x10^9/L$	3.7	0.9
MO%	%	3.5	3.5
MO#	$x10^9/L$	0.4	0.4
EO%	%	6.5	6.0
EO#	$x10^9/L$	0.6	0.6
BA%	%	1.0	1.0
BA#	$x10^9/L$	0.1	0.1
RBC	$x10^{12}/L$	4.18	0.18
HGB	g/dL	11.8	0.5
HCT	%	37.4	2.0
MCV	fL	89.5	5.0
MCH	pg	28.2	1.8
MCHC	g/dL	31.5	2.4
RDW	%	16.0	5.0
PLT	$x10^9/L$	258	50
MPV	fL	8.3	2.0
PCT	%	0.210	0.050
PDW	%	16.7	3.0

A00 167002

B00 167002 19-12-2014

C00 167002 9.9 52.0 5.1

D00 167002 37.0 3.7 3.5

E00 167002 0.4 6.5 0.6

F00 167002 1.0 0.1

G00 167002 4.18 11.8 37.4

H00 167002 89.5 28.2 31.5

I00 167002 16.0 258 8.3

J00 167002 0.210 16.7

Notes:
* Ranges must be entered manually into the Coulter control files.
* Barcodes can not be used for the GENS, LH500 and LH750

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Assay Value Sheet

D0000809
Version 6.0

Assay values 5-D Controls (Coulter® 5-part diff controls)
Assay values for Coulter® instruments: STKS / MAXM / HmX / GENS / LH500 / LH750

LOT : 167003
: 19-12-2014
REF : 3683

Level3 HIGH

Parameters		Mean	Range ±
WBC	$x10^9/L$	22.3	2.4
NE%	%	64.5	9.0
NE#	$x10^9/L$	14.4	2.0
LY%	%	24.0	8.0
LY#	$x10^9/L$	5.4	1.8
MO%	%	6.5	6.5
MO#	$x10^9/L$	1.4	1.4
EO%	%	4.0	4.0
EO#	$x10^9/L$	0.9	0.9
BA%	%	1.0	1.0
BA#	$x10^9/L$	0.2	0.2
RBC	$x10^{12}/L$	5.41	0.24
HGB	g/dL	17.2	0.8
HCT	%	55.7	2.8
MCV	fL	103.0	5.0
MCH	pg	31.8	1.8
MCHC	g/dL	30.9	2.4
RDW	%	13.8	5.0
PLT	$x10^9/L$	465	70
MPV	fL	8.4	2.0
PCT	%	0.400	0.080
PDW	%	16.7	3.0

A00 167003

B00 167003 19-12-2014

C00 167003 22.3 64.5 14.4

D00 167003 24.0 5.4 6.5

E00 167003 1.4 4.0 0.9

F00 167003 1.0 0.2

G00 167003 5.41 17.2 55.7

H00 167003 103.0 31.8 30.9

I00 167003 13.8 465 8.4

J00 167003 0.400 16.7

Notes:
* Ranges must be entered manually into the Coulter control files.
* Barcodes can not be used for the GENS, LH500 and LH750

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2°C 8°C IVD CE

Assay Value Sheet

D0000829
Version: 2.0

Assay values ADV-Diff Controls

LOT : 157 REF : 3684, 3685, 3686

: 2014-12-19

Assay values and expected ranges for Bayer™ ADVIA™ 120, 2120 Instruments:

Parameters		LOW (3684)		NORMAL (3685)		HIGH (3686)	
		Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC	10^9/l	3.40	0.50	8.10	1.00	16.75	2.80
WBCP Perox	10^9/l	2.65	0.50	7.15	1.00	15.60	2.80
RBC	10^{12}/l	2.22	0.12	4.55	0.22	5.20	0.28
HGB	g/dl	5.7	0.4	13.3	0.5	16.8	0.7
	mmol/l	3.5	0.2	8.3	0.3	10.4	0.4
HCT	%	15.7	1.5	35.9	2.6	45.2	3.5
	l/l	0.157	0.015	0.359	0.026	0.452	0.035
MCV	fl	70.5	4.0	79.0	4.0	87.0	4.0
MCH	pg	25.7	1.5	29.2	1.8	32.3	2.0
	fmol	1.59	0.09	1.81	0.11	2.01	0.12
MCHC	g/dl	36.4	2.5	37.0	2.8	37.1	3.0
	mmol/l	22.6	1.6	23.0	1.7	23.0	1.9
CHCM	g/dl	36.8	3.0	36.3	3.0	36.0	3.0
	mmol/l	22.8	2.0	22.5	2.0	22.3	2.0
RDW	%	16.8	3.0	14.7	3.0	14.1	3.0
HDW	g/dl	2.00	1.00	1.75	1.00	1.70	1.00
	mmol/l	1.24	0.80	1.09	0.80	1.06	0.80
PLT	10^9/l	58	20	220	45	470	70
MPV	fl	9.0	3.0	8.7	3.0	8.7	3.0
NEUT #	10^9/l	1.50	0.40	4.88	0.90	11.89	1.70
LYMP #	10^9/l	1.12	0.40	1.94	0.80	2.40	1.40
MONO #	10^9/l	0.46	0.30	0.63	0.50	1.26	1.20
EOS #	10^9/l	0.07	0.07	0.16	0.16	0.50	0.50
BASO #	10^9/l	0.05	0.05	0.12	0.12	0.17	0.17
NEUT %		44.0	12.0	60.2	10.0	71.0	10.0
LYMP %		33.0	12.0	24.0	10.0	14.3	8.0
MONO %		13.5	8.0	7.8	6.0	7.5	7.0
EOS %		2.0	2.0	2.0	2.0	3.0	3.0
BASO %		1.5	1.5	1.5	1.5	1.0	1.0
LUC %		6.0	6.0	4.5	4.5	3.2	3.2
NEUTx		NA	NA	58.0	6.0	57.0	6.0
NEUTy		NA	NA	77.0	8.0	75.0	8.0

Assay values and expected ranges for Bayer™ ADVIA™ 60 Instruments:

Parameters		LOW (3684)		NORMAL (3685)		HIGH (3686)	
		Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC	10^9/l	3.5	0.6	8.0	0.8	16.7	2.2
RBC	10^{12}/l	2.12	0.15	4.48	0.20	5.23	0.24
HGB	g/dl	5.7	0.5	13.3	0.6	17.0	0.7
	mmol/l	3.5	0.4	8.3	0.5	10.6	0.6
HCT	%	16.3	2.0	39.0	2.6	50.2	3.5
	l/l	0.163	0.020	0.390	0.026	0.502	0.035
MCV	fl	77	4	87	4	96	4
MCH	pg	26.9	2.0	29.7	2.0	32.5	2.0
	fmol	1.67	0.13	1.84	0.16	2.02	0.16
MCHC	g/dl	34.9	3.0	34.1	3.0	33.9	3.0
	mmol/l	21.7	2.0	21.2	2.0	21.0	2.0
RDW	%	14.3	3.0	13.5	3.0	13.0	3.0
PLT	10^9/l	65	15	205	30	420	55
MPV	fl	6.9	2.5	6.6	2.5	6.4	2.5
LYMP %		52.0	12.0	36.2	10.0	24.0	9.0
LYMP #	10^9/l	1.8	0.5	2.9	0.9	4.0	1.5
MON %		6.5	6.0	5.8	5.0	4.0	4.0
MON #	10^9/l	0.2	0.2	0.5	0.5	0.7	0.7
GRAN %		41.5	12.0	58.0	10.0	72.0	10.0
GRAN #	10^9/l	1.5	0.5	4.6	0.9	12.0	1.7

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8ºC
2ºC

IVD CE

Assay Value Sheet

D0000834
Version: 8.0

Assay values BC Diff 5 Controls

LOT : 158

: 2014-11-19

REF : 3613, 3614, 3615

Assay values and expected ranges for Mindray Instruments: BC-5500, BC5200*

	Parameters		LOW (3613)		NORMAL (3614)		HIGH (3615)		
			Mean	Range ±	Mean	Range ±	Mean	Range ±	
Mindray Reagents (QC Mode)	WBC	10^9/l	3.55	0.50	8.15	1.00	18.20	2.50	
	NEUT #	10^9/l	1.67	0.35	4.28	0.70	11.10	1.50	
	LYMP #	10^9/l	1.33	0.35	2.36	0.70	3.64	1.30	
	MONO #	10^9/l	0.36	0.30	0.86	0.70	1.73	1.30	
	EOS #	10^9/l	0.16	0.15	0.57	0.45	1.55	1.10	
	BASO #	10^9/l	0.04	0.04	0.08	0.08	0.18	0.18	**
	NEUT %		47.0	9.0	52.5	8.0	61.0	8.0	
	LYMP %		37.5	9.0	29.0	8.0	20.0	7.0	
	MONO %		10.0	8.0	10.5	8.0	9.5	7.0	
	EOS %		4.5	4.0	7.0	5.0	8.5	6.0	
	BASO %		1.0	1.0	1.0	1.0	1.0	1.0	**
JT Baker Reagents (QC Mode)	WBC	10^9/l	3.5	0.5	8.1	1.0	18.0	2.5	
	NEUT #	10^9/l	1.1	0.4	3.7	0.7	10.4	1.5	
	LYMP #	10^9/l	1.4	0.4	2.5	0.7	3.7	1.3	
	MONO #	10^9/l	0.4	0.3	0.9	0.7	1.8	1.3	
	EOS #	10^9/l	0.2	0.2	0.6	0.5	1.6	1.1	
	BASO #	10^9/l	0.4	0.4	0.4	0.4	0.5	0.5	**
	NEUT %		32.4	9.0	45.8	8.0	57.9	8.0	
	LYMP %		40.8	9.0	30.9	8.0	20.7	7.0	
	MONO %		10.4	8.0	11.0	8.0	9.9	7.0	
	EOS %		4.6	4.0	7.1	5.0	8.9	6.0	
	BASO %		11.9	5.0	5.2	5.2	2.6	2.6	**
Both Reagents (QC-Mode)	RBC	10^{12}/l	2.40	0.18	4.57	0.24	5.19	0.30	
	HGB	g/dl	6.2	0.4	13.6	0.6	17.0	0.8	
		mmol/l	3.8	0.3	8.4	0.4	10.6	0.5	
	HCT***	%	17.8	1.5	38.4	2.0	47.7	2.4	*** Mindray reagents
		l/l	0.178	0.015	0.384	0.020	0.477	0.024	
	HCT****	%	18.6	1.5	41.3	2.0	51.0	2.4	**** JT Baker reagents
		l/l	0.186	0.015	0.413	0.020	0.510	0.024	
	MCV***	fl	74.0	5.0	84.0	5.0	92.0	5.0	
	MCV****	fl	77.5	5.0	90.4	5.0	98.2	5.0	
	MCH	pg	25.8	2.5	29.8	2.5	32.8	2.5	
		fmol	1.60	0.20	1.85	0.20	2.03	0.20	
	MCHC***	g/dl	34.9	3.0	35.4	3.0	35.6	3.0	
	MCHC***	mmol/l	21.7	2.0	22.0	2.0	22.1	2.0	
	MCHC****	g/dl	33.3	3.0	32.9	3.0	33.4	3.0	
	MCHC****	mmol/l	20.7	2.0	20.4	2.0	20.7	2.0	
	RDW-CV	%	12.5	3.0	11.5	3.0	11.5	3.0	
	RDW-SD	fl	29.5	8.0	32.0	8.0	39.0	8.0	
	PLT	10^9/l	52	20	255	40	495	60	
	MPV	fl	8.3	3.0	9.0	3.0	9.5	3.0	
	PCT	%	0.050	0.050	0.230	0.100	0.470	0.200	
	PDW	fl	16.5	3.0	16.2	3.0	16.4	3.0	

* **Controls have to be measured in QC Mode**

** **For Mindray reagents measured value is artificially set to zero.**

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Assay Value Sheet

D0000834
Version: 8.0

AVANTOR PERFORMANCE MATERIALS

Assay values and expected ranges for Mindray Instruments: BC-5380

	Parameters		LOW (3613)		NORMAL (3614)		HIGH (3615)	
			Mean	Range ±	Mean	Range ±	Mean	Range ±
Both Reagents (QC Mode)	WBC	10^9/l	3.60	0.50	8.20	1.00	18.35	2.50
	NEUT #	10^9/l	1.80	0.35	4.59	0.70	11.84	1.50
	LYMP #	10^9/l	1.33	0.35	2.30	0.70	3.39	1.30
	MONO #	10^9/l	0.31	0.25	0.74	0.60	1.47	1.15
	EOS #	10^9/l	0.16	0.15	0.57	0.45	1.65	1.30
	BASO #	10^9/l	1.85	0.30	5.29	0.70	14.04	1.50
	NEUT %		50.0	9.0	56.0	8.0	64.5	8.0
	LYMP %		37.0	9.0	28.0	8.0	18.5	7.0
	MONO %		8.5	6.0	9.0	7.0	8.0	6.0
	EOS %		4.5	4.0	7.0	5.0	9.0	7.0
	BASO %		51.5	8.0	64.5	8.0	76.5	8.0
	RBC	10^{12}/l	2.36	0.18	4.54	0.24	5.22	0.30
	HGB	g/dl	6.1	0.4	13.3	0.6	16.7	0.8
		mmol/l	3.8	0.3	8.3	0.4	10.4	0.5
	HCT	%	19.1	1.5	41.5	2.0	50.9	2.4
		l/l	0.191	0.019	0.415	0.025	0.509	0.028
	MCV	fl	81.0	5.0	91.5	5.0	97.5	5.0
	MCH	pg	25.8	2.5	29.3	2.5	32.0	2.5
		fmol	1.61	0.20	1.82	0.20	1.99	0.20
	MCHC	g/dl	31.9	3.0	32.0	3.0	32.8	3.0
		mmol/l	19.8	2.0	19.9	2.0	20.4	2.0
	RDW-CV	%	15.5	3.0	13.5	3.0	13.0	3.0
	RDW-SD	fl	56.0	8.0	54.5	8.0	57.0	8.0
	PLT	10^9/l	48	20	253	40	495	60
	MPV	fl	8.2	3.0	8.4	3.0	8.4	3.0
	PCT	%	0.05	0.05	0.21	0.10	0.42	0.20
	PDW	fl	16.1	3.0	16.1	3.0	16.2	3.0

Assay values and expected ranges for Mindray Instruments:
BC-5300,BC-5300Vet, BC-5100, BC-5100Vet

	Parameters		LOW (3613)		NORMAL (3614)		HIGH (3615)	
			Mean	Range ±	Mean	Range ±	Mean	Range ±
Both Reagents (QC Mode)	WBC	10^9/l	3.50	0.50	8.25	1.00	18.30	2.50
	NEUT #	10^9/l	1.77	0.35	4.62	0.70	11.80	1.50
	LYMP #	10^9/l	1.30	0.35	2.35	0.70	3.39	1.30
	MONO #	10^9/l	0.28	0.25	0.70	0.50	1.46	1.10
	EOS #	10^9/l	0.16	0.15	0.58	0.45	1.65	1.30
	BASO #	10^9/l	1.75	0.30	5.28	0.70	13.91	1.50
	NEUT %		50.5	9.0	56.0	8.0	64.5	8.0
	LYMP %		37.0	9.0	28.5	8.0	18.5	7.0
	MONO %		8.0	6.0	8.5	6.0	8.0	6.0
	EOS %		4.5	4.0	7.0	5.0	9.0	7.0
	BASO %		50.0	8.0	64.0	8.0	76.0	8.0
	RBC	10^{12}/l	2.32	0.18	4.52	0.24	5.19	0.30
	HGB	g/dl	6.0	0.4	13.3	0.6	16.5	0.8
		mmol/l	3.7	0.3	8.3	0.4	10.2	0.5
	HCT	%	18.9	1.5	41.8	2.0	50.9	2.4
		l/l	0.189	0.019	0.418	0.025	0.509	0.028
	MCV	fl	81.5	5.0	92.5	5.0	98.0	5.0
	MCH	pg	25.9	2.5	29.4	2.5	31.8	2.5
		fmol	1.61	0.20	1.83	0.20	1.97	0.20
	MCHC	g/dl	31.7	3.0	31.8	3.0	32.4	3.0
		mmol/l	19.7	2.0	19.8	2.0	20.1	2.0
	RDW-CV	%	16.0	3.0	14.0	3.0	13.5	3.0
	RDW-SD	fl	57.5	8.0	55.5	8.0	58.0	8.0
	PLT	10^9/l	48	20	246	40	488	60
	MPV	fl	8.9	3.0	9.2	3.0	9.3	3.0
	PCT	%	0.05	0.05	0.23	0.10	0.46	0.20
	PDW	fl	16.0	3.0	16.0	3.0	16.2	3.0

Assay Value Sheet

D0000806
Version 12.0

AVANTOR PERFORMANCE MATERIALS

Assay values CD-Diff (Cell-Dyn) Controls

LOT : 211 : 2014-11-16

REF : 3452, 3453, 3454, 3838

Abbott Cell-Dyn: 1700, 1800 series

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/L	3.3	0.5	8.3	1.0	22.9	2.2
LYM %	27.0	7.0	16.0	5.0	18.5	5.0
MID %	22.5	7.0	19.0	6.0	16.0	5.0
GRAN %	50.5	9.0	65.0	7.0	65.5	7.0
LYM # 10^9/L	0.9	0.4	1.3	0.6	4.2	1.7
MID # 10^9/L	0.7	0.4	1.6	0.7	3.7	1.6
GRAN # 10^9/L	1.7	0.6	5.4	1.3	15.0	3.2
RBC 10^{12}/L	2.15	0.18	4.68	0.24	5.15	0.30
HGB g/dL	5.5	0.4	13.4	0.6	16.2	0.8
HGB mmol/L	3.4	0.3	8.3	0.4	10.0	0.5
Hct %	17.2	1.8	42.1	2.4	49.4	3.0
HCT L/L	0.172	0.018	0.421	0.024	0.494	0.030
MCV fL	80.0	5.0	90.0	5.0	96.0	5.0
MCH pg	25.6	2.8	28.6	2.0	31.5	2.0
MCH fmol	1.59	0.18	1.78	0.16	1.95	0.16
MCHC g/dL	32.0	3.6	31.8	2.8	32.8	2.8
MCHC mmol/L	19.8	2.3	19.7	1.8	20.3	1.8
RDW %	17.1	4.0	16.3	4.0	15.0	4.0
Plts 10^9/L	73	20	238	40	470	70
MPV fL	9.5	3.0	9.2	3.0	9.7	3.0

Abbott Cell-Dyn: 1300, 1600, 2000 series

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/L	3.1	0.5	7.7	1.0	22.0	2.2
LYM %	23.2	7.0	12.8	5.0	16.1	5.0
MID %	16.7	7.0	13.1	6.0	10.3	5.0
GRAN %	60.1	9.0	74.1	7.0	73.6	7.0
LYM # 10^9/L	0.7	0.4	0.9	0.6	3.5	1.7
MID # 10^9/L	0.4	0.4	1.0	0.7	2.3	1.6
GRAN # 10^9/L	2.0	0.6	5.8	1.3	16.2	3.2
Other CBC Parameter	See Abbott Cell-Dyn 1700 Table					

Abbott Cell-Dyn: 3200 and Ruby series

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC(WOC) 10^9/L	3.0	0.4	7.9	1.0	21.0	2.5
WBC(NOC) 10^9/L	3.0	0.4	7.8	1.0	22.7	2.5
NEU # 10^9/L	1.5	0.5	4.9	1.4	14.9	3.9
NEU %	50.0	10.0	62.0	9.0	71.0	9.0
LYM # 10^9/L	1.2	0.4	2.1	0.9	3.6	2.2
LYM %	38.5	10.0	26.0	8.0	17.0	8.0
MONO # 10^9/L	0.2	0.2	0.6	0.5	1.2	1.2
MONO %	6.5	6.5	7.0	6.0	5.5	5.5
EOS # 10^9/L	0.1	0.1	0.3	0.3	1.1	1.1
EOS %	3.5	3.5	3.5	3.5	5.0	5.0
BASO # 10^9/L	0.1	0.1	0.1	0.1	0.3	0.3
BASO %	1.5	1.5	1.5	1.5	1.5	1.5
RBC 10^{12}/L	2.05	0.18	4.64	0.24	5.20	0.28
HGB g/dL	5.4	0.4	13.2	0.6	16.1	0.8
HGB mmol/L	3.3	0.3	8.2	0.4	10.0	0.5
Hct %	14.5	1.8	36.4	2.5	42.9	3.5
HCT L/L	0.145	0.018	0.364	0.025	0.429	0.035
MCV fL	70.5	5.0	78.5	5.0	82.5	5.0
MCH pg	26.3	2.8	28.4	2.4	31.0	2.4
MCH fmol	1.63	0.18	1.76	0.16	1.92	0.16
MCHC g/dL	37.4	3.6	36.2	3.0	37.5	3.0
MCHC mmol/L	23.2	2.3	22.5	1.8	23.3	1.8
RDW %	13.2	3.0	12.1	3.0	11.1	3.0
PLT 10^9/L	73	20	253	40	492	70
MPV fL	5.5	3.0	5.5	3.0	5.5	3.0

Abbott Cell-Dyn: 3000 (no WIC), 3500 and 3700 series

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC(WOC) 10^9/L	2.9	0.4	7.6	0.8	20.5	2.2
WIC 10^9/L	3.2	0.4	8.2	0.8	23.7	2.2
NEU # 10^9/L	1.5	0.4	4.8	1.1	14.7	3.4
NEU %	50.0	10.0	63.0	8.0	71.8	8.0
LYM # 10^9/L	1.1	0.4	1.9	0.8	3.2	1.9
LYM %	38.0	9.0	25.0	8.0	15.7	7.0
MONO # 10^9/L	0.2	0.2	0.5	0.5	1.2	1.2
MONO %	7.0	7.0	7.0	7.0	6.0	6.0
EOS # 10^9/L	0.1	0.1	0.3	0.3	1.0	1.0
EOS %	3.5	3.5	3.5	3.5	5.0	5.0
BASO # 10^9/L	0.1	0.1	0.1	0.1	0.3	0.3
BASO %	1.5	1.5	1.5	1.5	1.5	1.5
RBC 10^{12}/L	2.10	0.15	4.64	0.20	5.15	0.24
HGB g/dL	5.5	0.3	13.4	0.5	16.2	0.7
HGB mmol/L	3.4	0.2	8.3	0.3	10.0	0.5
Hct %	17.0	1.8	42.2	2.4	49.4	3.0
HCT L/L	0.170	0.018	0.422	0.024	0.494	0.030
MCV fL	81.0	5.0	91.0	5.0	96.0	5.0
MCH pg	26.2	2.8	28.9	2.0	31.5	2.0
MCH fmol	1.62	0.18	1.79	0.16	1.95	0.16
MCHC g/dL	32.3	3.6	31.7	2.8	32.8	2.8
MCHC mmol/L	20.0	2.3	19.7	1.8	20.3	1.8
RDW %	16.3	3.0	15.6	3.0	15.6	3.0
Plts 10^9/L	77	20	240	40	485	70
MPV fL	8.5	3.0	8.5	3.0	8.5	3.0

Abbott Cell-Dyn 4000, Abbott Sapphire

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC 10^9/L	3.10	0.40	8.20	0.80	21.60	2.20
NEU # 10^9/L	1.52	0.55	5.00	1.39	15.10	3.70
NEU %	49.00	10.00	61.00	10.00	70.00	9.00
LYM # 10^9/L	1.19	0.51	2.05	1.01	3.56	2.27
LYM %	38.50	10.00	25.00	9.00	16.50	8.00
MONO # 10^9/L	0.23	0.23	0.74	0.74	1.73	1.73
MONO %	7.50	7.50	9.00	9.00	8.00	8.00
EOS # 10^9/L	0.09	0.09	0.29	0.29	0.97	0.97
EOS %	3.00	3.00	3.50	3.50	4.50	4.50
BASO # 10^9/L	0.06	0.06	0.12	0.12	0.22	0.22
BASO %	2.00	2.00	1.50	1.50	1.00	1.00
RBC 10^{12}/L	2.12	0.18	4.68	0.20	5.24	0.24
RBCo 10^{12}/L	2.15	0.18	4.68	0.20	5.19	0.24
HGB g/dL	5.6	0.3	13.4	0.5	15.9	0.7
HGB mmol/L	3.5	0.2	8.3	0.3	9.9	0.5
Hct %	16.0	1.8	40.2	2.4	47.4	3.0
HCT L/L	0.160	0.020	0.400	0.020	0.470	0.030
MCV fL	75.5	5.0	86.0	5.0	90.5	5.0
MCH pg	26.4	2.8	28.6	2.0	30.3	2.0
MCH fmol	1.64	0.18	1.78	0.16	1.88	0.16
MCHC g/dL	35.0	3.6	33.3	2.8	33.5	2.8
MCHC mmol/L	21.7	2.3	20.6	1.8	20.8	1.8
RDW %	15.0	3.0	14.0	3.0	13.3	3.0
NRBC 10^9/L	0.001	0.001	0.001	0.001	2.10	1.50
NRBC / 100 WBC	0.001	0.001	0.001	0.001	9.72	6.94
PLT 10^9/L	72.0	20.0	223.0	40.0	448.0	70.0
PLTi 10^9/L	87.0	20.0	247.0	40.0	490.0	70.0
MPV fL	9.4	3.0	8.4	3.0	8.4	3.0
PCT %	0.06	0.03	0.18	0.04	0.36	0.08
PCT ml/L	0.60	0.30	1.80	0.40	3.60	0.80
PDW %	15.9	3.0	16.6	2.5	17.4	2.5

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8°C
2°C

The devices as mentioned in this insert comply with the In Vitro Diagnostic Medical Devices Directive 98/79/EC.

IVD

CE

Assay Value Sheet

D0000806
Version 12.0

Assay values CD-Diff (Cell-Dyn) Controls

LOT : 211 : 2014-11-16

REF : 3452, 3453, 3454, 3838

Human HumaCount 5L (software version 1.5.1829.0 and higher)

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC $10^3/\mu L$	3.0	0.4	8.1	0.8	23.7	2.2
NEU $10^3/\mu L$	1.3	0.5	4.6	1.3	13.9	3.5
LYM $10^3/\mu L$	1.4	0.5	2.5	1.0	5.8	2.0
MONO $10^3/\mu L$	0.3	0.3	0.8	0.8	3.2	3.2
EOS $10^3/\mu L$	0.1	0.1	0.2	0.2	0.7	0.7
BASO $10^3/\mu L$	0.1	0.1	0.1	0.1	0.1	0.1
NEU %	42.7	10.0	56.6	12.0	58.7	12.0
LYM %	45.4	10.0	31.2	9.0	24.6	9.0
MONO %	10.1	10.0	10.2	10.0	13.6	10.0
EOS %	1.7	1.7	1.9	1.9	2.9	2.9
BASO %	0.2	0.2	0.2	0.2	0.3	0.3
RBC $10^6/\mu L$	2.16	0.15	4.47	0.20	4.92	0.24
HGB g/dL	5.4	0.4	12.7	0.5	15.9	0.6
HGB mmol/L	3.4	0.3	7.9	0.5	9.9	0.6
Hct %	18.2	1.8	41.8	2.4	49.6	3.0
HCT L/L	0.182	0.018	0.418	0.024	0.496	0.030
MCV fL	84.2	4.0	93.6	5.0	100.9	6.0
MCH pg	25.0	2.8	28.4	2.0	32.3	2.0
MCH fmol	1.55	0.15	1.76	0.20	2.01	0.20
MCHC g/dL	29.7	3.6	30.4	2.8	32.0	2.8
MCHC mmol/L	18.4	3.6	18.8	2.8	19.9	2.8
RDW-SD fL	43.6	6.2	49.5	6.2	50.1	6.2
RDW-CV %	15.8	3.0	15.1	3.0	13.6	3.0
PLT $10^3/\mu L$	79	20	231	40	416	65
PCT %	0.06	0.04	0.18	0.06	0.35	0.10
PCT mL/L	0.60	0.40	1.80	0.60	3.50	1.00
MPV fL	7.3	3.0	7.6	3.0	8.3	3.0
PDW-CV %	42.6	12.0	41.7	8.0	41.2	8.0
PDW-SD fL	18.5	5.2	18.5	5.0	19.2	5.0
Gravity X	N/A		122		N/A	
Gravity Y	N/A		81		N/A	

Nihon Kohden Celltac E, ES and F*

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC $10^9/L$	3.0	0.4	8.0	0.8	23.0	2.2
NEU # $10^9/L$	1.5	0.5	5.1	1.3	14.6	3.4
NEU %	50.1	8.0	63.3	8.0	63.3	8.0
LYM # $10^9/L$	0.6	0.4	1.1	0.8	2.2	1.7
LYM %	18.9	8.0	13.8	7.0	9.7	6.0
MONO # $10^9/L$	0.8	0.8	1.5	1.5	4.9	4.9
MONO %	25.6	25.6	19.1	19.1	21.1	21.1
EOS # $10^9/L$	0.1	0.1	0.1	0.1	0.6	0.6
EOS %	2.0	2.0	1.4	1.4	2.8	2.8
BASO # $10^9/L$	0.1	0.1	0.2	0.2	0.7	0.7
BASO %	3.7	3.7	2.6	2.6	3.2	3.2
RBC $10^{12}/L$	2.10	0.15	4.56	0.20	4.97	0.24
HGB g/dL	5.3	0.4	13.5	0.5	16.2	0.6
HGB mmol/L	3.3	0.3	8.4	0.5	10.1	0.6
Hct %	18.9	1.8	44.7	2.4	53.2	3.0
HCT L/L	0.189	0.018	0.447	0.024	0.532	0.030
MCV fL	90.0	4.0	98.0	5.0	107.0	6.0
MCH pg	25.2	2.8	29.6	2.0	32.6	2.0
MCH fmol	1.57	0.15	1.84	0.20	2.02	0.20
MCHC g/dL	28.0	3.6	30.2	2.8	30.5	2.8
MCHC mmol/L	17.4	3.6	18.7	2.8	18.9	2.8
RDW %	19.7	3.0	18.4	3.0	17.7	3.0
PLT $10^9/L$	67	20	221	40	435	65
PCT %	0.10	0.04	0.20	0.06	0.40	0.10
PCT ml/L	1.00	0.40	2.00	0.60	4.00	1.00
MPV fL	8.8	3.0	8.3	3.0	9.1	3.0
PDW-CV %	18.8	12.0	17.7	8.0	17.8	8.0

*** Check Manuals Celltac E and ES for FL-SD adjustment for CONTROL mode**
*** Celltac F CONTROL setup: FS=1.0, FL=1.3 and SD=1.5**

SEAC Heco5 / Heco5Plus

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
RBC $10^{12}/L$	2.23	0.15	4.61	0.20	5.03	0.25
HGB g/dL	5.5	0.4	13.1	0.5	15.6	0.6
HGB mmol/L	3.4	0.3	8.1	0.5	9.7	0.6
Hct %	16.8	1.8	40.5	2.4	46.3	3.0
HCT L/L	0.168	0.018	0.405	0.024	0.463	0.030
MCV fL	75.2	4.0	87.8	5.0	92.1	6.0
MCH pg	24.8	2.8	28.5	2.0	31.0	2.0
MCH fmol	1.54	0.15	1.77	0.20	1.92	0.20
MCHC g/dL	32.9	3.6	32.4	2.8	33.7	2.8
MCHC mmol/L	20.4	3.6	20.1	2.8	20.9	2.8
PLTi $10^9/L$	53	20	224	40	470	65
MPV fL	8.3	3.0	10.4	3.0	10.7	3.0
PCT %	0.04	0.02	0.23	0.05	0.50	0.10
PCT ml/L	0.44	0.20	2.32	0.50	5.02	1.00
WBC $10^9/L$	2.8	0.3	7.4	0.7	21.2	1.5
LYM # $10^9/L$	1.2	0.3	2.3	0.7	5.1	2.0
LYM %	45.8	13.5	31.5	9.0	24.3	10.5
MONO # $10^9/L$	0.2	0.2	0.6	0.6	1.2	1.2
MONO %	7.1	1.8	7.8	7.8	5.3	5.3
EOS # $10^9/L$	0.8	0.8	3.4	1.5	11.3	5.5
EOS %	29.3	17.5	45.9	20.0	54.5	26.0
BASO # $10^9/L$	0.1	0.1	0.2	0.2	0.6	0.6
BASO %	2.7	2.7	2.5	2.5	3.1	3.1
NEU # $10^9/L$	0.4	0.4	0.9	0.9	3.0	3.0
NEU %	15.2	6.0	12.5	5.0	13.3	6.0

Erba Elite 5; Diatron Abacus 5; Boule Quintus

Parameters	LOW		NORMAL		HIGH	
	Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC $10^3/\mu L$	3.0	0.4	8.1	0.8	23.7	2.2
NEU $10^3/\mu L$	1.3	0.5	4.6	1.3	13.9	3.5
LYM $10^3/\mu L$	1.4	0.5	2.5	1.0	5.8	2.0
MONO $10^3/\mu L$	0.3	0.3	0.8	0.8	3.2	3.2
EOS $10^3/\mu L$	0.1	0.1	0.2	0.2	0.7	0.7
BASO $10^3/\mu L$	0.1	0.1	0.1	0.1	0.1	0.1
NEU %	42.7	10.0	56.6	12.0	58.7	12.0
LYM %	45.4	10.0	31.2	9.0	24.6	9.0
MONO %	10.1	10.0	10.2	10.0	13.6	10.0
EOS %	1.7	1.7	1.9	1.9	2.9	2.9
BASO %	0.2	0.2	0.2	0.2	0.3	0.3
RBC $10^6/\mu L$	2.16	0.15	4.47	0.20	4.92	0.24
HGB g/dL	5.4	0.4	12.7	0.5	15.9	0.6
HGB mmol/L	3.4	0.3	7.9	0.5	9.9	0.6
Hct %	18.2	1.8	41.8	2.4	49.6	3.0
HCT L/L	0.182	0.018	0.418	0.024	0.496	0.030
MCV fL	84.2	4.0	93.6	5.0	100.9	6.0
MCH pg	25.0	2.8	28.4	2.0	32.3	2.0
MCH fmol	1.55	0.15	1.76	0.20	2.01	0.20
MCHC g/dL	29.7	3.6	30.4	2.8	32.0	2.8
MCHC mmol/L	18.4	3.6	18.8	2.8	19.9	2.8
RDW-SD fL	43.6	6.2	49.5	6.2	50.1	6.2
RDW-CV %	15.8	3.0	15.1	3.0	13.6	3.0
PLT $10^3/\mu L$	79	20	231	40	416	65
PCT %	0.06	0.04	0.18	0.06	0.35	0.10
PCT mL/L	0.60	0.40	1.80	0.60	3.50	1.00
MPV fL	7.3	3.0	7.6	3.0	8.3	3.0
PDW-CV %	42.6	12.0	41.7	8.0	41.2	8.0
PDW-SD fL	18.5	5.2	18.5	5.0	19.2	5.0
Gravity X	N/A		122		N/A	
Gravity Y	N/A		81		N/A	

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8°C
2°C

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IVD

CE

Assay Value Sheet

D0000808
Version: 9.0

Assay values K-Diff Controls **(Combined Units)**

LOT	:	166
⌛	:	2014-12-19
REF	:	3455, 3456, 3457

Assay values and expected ranges for: Toa Sysmex K800, K1000, K4500

Parameters		LOW (3896)		NORMAL (3897)		HIGH (3898)	
		Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC	10^9/l	3.0	0.4	8.7	0.8	21.2	2.4
RBC	10^{12}/l	2.38	0.16	4.13	0.22	5.60	0.28
Hb	g/dl	6.1	0.4	12.1	0.5	17.9	0.7
	mmol/l	3.8	0.2	7.5	0.3	11.1	0.5
Hct	%	16.4	1.8	32.2	2.4	48.2	3.0
	l/l	0.164	0.018	0.322	0.024	0.482	0.030
MCV	fl	69.0	5.0	78.0	5.0	86.0	5.0
MCH	pg	25.6	2.8	29.3	2.0	32.0	2.0
	fmol	1.59	0.18	1.82	0.16	1.98	0.16
MCHC	g/dl	37.1	3.6	37.6	2.8	37.2	2.8
	mmol/l	23.1	2.3	23.3	1.8	23.1	1.8
RDW-CV	%	12.6	5.0	13.4	5.0	13.9	5.0
Plts	10^9/l	81	18	205	30	366	60
MPV	fl	8.9	3.0	9.1	3.0	9.6	3.0
W-SCR (LYMPH)	%	11.0	7.0	32.3	5.0	60.2	7.0
W-MCR (MXD)	%	19.0	8.0	14.8	5.0	14.1	4.0
W-LCR (NEUT)	%	70.0	10.0	53.0	6.0	25.6	5.0
W-SCC (LYMP)	#	0.3	0.2	2.8	0.4	12.8	1.5
W-MCC (MXD)	#	0.6	0.3	1.3	0.4	3.0	0.9
W-LCC (NEUT)	#	2.1	0.4	4.6	0.6	5.4	1.1

Assay values and expected ranges for: Toa Sysmex KX21

Parameters		LOW (3896)		NORMAL (3897)		HIGH (3898)	
		Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC	10^9/l	2.8	0.4	7.9	0.8	19.9	2.4
RBC	10^{12}/l	2.40	0.16	4.12	0.22	5.65	0.28
Hb	g/dl	6.2	0.4	12.1	0.5	18.0	0.7
	mmol/l	3.8	0.2	7.5	0.3	11.2	0.5
Hct	%	17.5	1.8	33.4	2.4	49.7	3.0
	l/l	0.175	0.018	0.334	0.024	0.497	0.030
MCV	fl	73.0	5.0	81.0	5.0	88.0	5.0
MCH	pg	25.8	2.8	29.4	2.0	31.9	2.0
	fmol	1.60	0.18	1.82	0.16	1.98	0.16
MCHC	g/dl	35.4	3.6	36.3	2.8	36.2	2.8
	mmol/l	21.9	2.3	22.5	1.8	22.4	1.8
RDW-SD	fl	34.8	8.0	36.8	8.0	39.9	8.0
RDW-CV	%	11.7	5.0	11.5	5.0	10.9	5.0
Plts	10^9/l	63	18	205	30	400	60
MPV	fl	9.6	3.0	9.4	3.0	9.7	3.0
W-SCR (LYMPH)	%	11.5	7.0	32.0	5.0	61.5	7.0
W-MCR (MXD)	%	19.0	8.0	14.5	5.0	13.5	4.0
W-LCR (NEUT)	%	69.5	10.0	53.5	6.0	25.0	5.0
W-SCC (LYMP)	#	0.3	0.2	2.5	0.4	12.2	1.5
W-MCC (MXD)	#	0.5	0.3	1.1	0.4	2.7	0.9
W-LCC (NEUT)	#	1.9	0.4	4.2	0.6	5.0	1.1

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2ºC 8ºC

IVD

CE

Assay Value Sheet

D0000828
Version: 3.0

Assay values SF-Diff Controls

LOT : 158

: 2014-11-19

REF : 3693, 3694, 3695

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Assay values and expected ranges for Sysmex Instruments: **SF-3000** (**Manual mode**)

Parameters		LOW (3693)		NORMAL (3694)		HIGH (3695)	
		Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC	10^9/l	2.54	0.60	8.25	0.80	20.26	2.00
RBC	10^{12}/l	2.39	0.15	4.48	0.19	5.71	0.23
HGB	g/dl	6.1	0.4	12.8	0.5	17.5	0.6
	mmol/l	3.8	0.3	7.9	0.3	10.9	0.4
HCT	%	18.9	2.0	38.6	2.4	53.7	3.0
	l/l	0.189	0.019	0.386	0.023	0.537	0.030
MCV	fl	78.9	4.0	86.2	4.0	94.1	5.0
MCH	pg	25.5	2.0	28.6	2.0	30.6	2.0
	fmol	1.58	0.10	1.77	0.12	1.90	0.12
MCHC	g/dl	32.3	3.0	33.1	2.5	32.6	2.5
	mmol/l	20.1	1.4	20.6	1.4	20.2	1.6
RDW-SD	fl	25.8	5.0	29.6	5.0	33.9	5.0
RDW-CV	%	10.4	2.5	10.3	2.5	9.9	2.5
PLT	10^9/l	68	20	196	35	369	45
PDW	fl	8.3	3.0	8.6	2.5	8.5	2.5
MPV	fl	8.5	2.0	8.6	2.0	8.5	2.0
P-LCR	%	13.9	13.9	14.1	14.1	13.0	13.0
NEUT #	10^9/l	1.70	0.18	5.51	0.56	14.49	1.41
LYMP #	10^9/l	0.52	0.15	1.67	0.48	3.28	1.21
MONO #	10^9/l	0.25	0.10	0.79	0.32	2.09	0.81
EOS #	10^9/l	0.07	0.06	0.29	0.16	0.47	0.40
BASO #	10^9/l	2.54	0.60	8.25	0.80	20.26	2.00
NEUT %		67.1	7.0	66.8	7.0	71.5	7.0
LYMP %		20.4	6.0	20.2	6.0	16.2	6.0
MONO %		9.9	4.2	9.6	4.0	10.3	4.0
EOS %		2.7	2.5	3.5	2.0	2.3	1.5
BASO %		100.0	NA	100.0	NA	100.0	NA
GRAN-X		194.1	60.0	197.1	60.0	195.2	60.0
GRAN-Y		168.0	60.0	164.6	60.0	170.5	60.0
WBC/BA-X		116.8	116.8	151.7	151.7	149.5	149.5
WBC/BA-Y		141.5	141.5	136.8	136.8	139.2	139.2
GRAN-Y (W)		23.4	23.4	23.1	23.1	25.5	25.5

Assay values and expected ranges for Sysmex Instruments: **SF-3000** (**Closed Mode**)

Parameters		LOW (3693)		NORMAL (3694)		HIGH (3695)	
		Mean	Range ±	Mean	Range ±	Mean	Range ±
WBC	10^9/l	2.54	0.60	8.25	0.80	20.26	2.00
RBC	10^{12}/l	2.39	0.15	4.48	0.19	5.62	0.23
HGB	g/dl	6.1	0.4	12.8	0.5	17.1	0.6
	mmol/l	3.8	0.3	7.9	0.3	10.6	0.4
HCT	%	18.9	2.0	38.6	2.4	53.7	3.0
	l/l	0.189	0.019	0.386	0.023	0.537	0.030
MCV	fl	78.9	4.0	86.2	4.0	94.1	5.0
MCH	pg	25.5	2.0	28.6	2.0	30.4	2.0
	fmol	1.58	0.10	1.77	0.12	1.89	0.12
MCHC	g/dl	32.3	3.0	33.1	2.5	32.3	2.5
	mmol/l	20.1	1.4	20.6	1.4	20.1	1.6
RDW-SD	fl	25.8	5.0	29.6	5.0	33.9	5.0
RDW-CV	%	10.4	2.5	10.3	2.5	9.9	2.5
PLT	10^9/l	68	20	196	35	364	45
PDW	fl	8.3	3.0	8.6	2.5	8.5	2.5
MPV	fl	8.5	2.0	8.6	2.0	8.5	2.0
P-LCR	%	13.9	13.9	14.1	14.1	13.0	13.0
NEUT #	10^9/l	1.70	0.18	5.51	0.56	14.49	1.41
LYMP #	10^9/l	0.52	0.15	1.67	0.48	3.28	1.21
MONO #	10^9/l	0.25	0.10	0.79	0.32	2.09	0.81
EOS #	10^9/l	0.07	0.06	0.29	0.16	0.47	0.40
BASO #	10^9/l	2.54	0.60	8.25	0.80	20.26	2.00
NEUT %		67.1	7.0	66.8	7.0	71.5	7.0
LYMP %		20.4	6.0	20.2	6.0	16.2	6.0
MONO %		9.9	4.2	9.6	4.0	10.3	4.0
EOS %		2.7	2.5	3.5	2.0	2.3	1.5
BASO %		100.0	NA	100.0	NA	100.0	NA
GRAN -X		194.1	60.0	197.1	60.0	195.2	60.0
GRAN-Y		168.0	60.0	164.6	60.0	170.5	60.0
WBC/BA-X		116.8	116.8	151.7	151.7	149.5	149.5
WBC/BA-Y		141.5	141.5	136.8	136.8	139.2	139.2
GRAN-Y (W)		23.4	23.4	23.1	23.1	25.5	25.5

2°C 8°C

IVD

CE

Assay Value Sheet

D0000824
Version: 8.0

IMPORTANT NOTE: For Reticulocyte parameters use the XERet control (PN 3652, 3653, 3654).

Assay values XE-Diff Controls

LOT : 232

: 2014-11-19

REF : 3731, 3732, 3733

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The devices as mentioned in this insert comply with the In Vitro Diagnostic Medical Devices Directive 98/79/EC.

Assay values and expected ranges for: Sysmex Instruments: XE-2100 *

	Parameters		LOW (3731)		NORMAL (3732)		HIGH (3733)		
			Mean	Range ±	Mean	Range ±	Mean	Range ±	
Open sampling	WBC	10^9/l	3.40	0.80	7.40	1.00	20.40	2.20	
	NEUT #	10^9/l	2.21	0.60	4.00	1.00	12.65	2.05	
	LYMP #	10^9/l	0.58	0.35	2.04	0.68	4.28	1.85	
	MONO #	10^9/l	0.12	0.12	0.41	0.41	0.71	0.71	
	EOS #	10^9/l	0.49	0.24	0.96	0.52	2.75	1.45	
	BASO #	10^9/l	2.72	1.20	5.55	2.40	16.32	5.70	
Closed sampling	WBC	10^9/l	3.40	0.80	7.10	1.00	19.20	2.20	
	NEUT #	10^9/l	2.21	0.60	3.83	1.00	11.90	1.95	
	LYMP #	10^9/l	0.58	0.35	1.95	0.65	4.03	1.75	
	MONO #	10^9/l	0.12	0.12	0.39	0.39	0.67	0.67	
	EOS #	10^9/l	0.49	0.24	0.92	0.50	2.59	1.35	
	BASO #	10^9/l	2.72	1.20	5.33	2.30	15.36	5.50	
Both modes	NEUT	%	65.00	12.00	54.00	12.00	62.00	10.00	
	LYMP	%	17.00	9.00	27.50	9.00	21.00	9.00	
	MONO	%	3.50	3.50	5.50	5.50	3.50	3.50	
	EOS	%	14.50	7.00	13.00	7.00	13.50	7.00	
	BASO	%	80.00	20.00	75.00	25.00	80.00	20.00	
Open sampling	RBC	10^{12}/l	2.39	0.15	4.80	0.24	5.60	0.30	
	HGB	g/dl	6.0	0.4	13.7	0.6	17.7	0.7	
		mmol/l	3.7	0.3	8.5	0.4	11.0	0.5	
	HCT	%	18.3	2.0	40.3	2.5	51.8	3.0	
		l/l	0.183	0.020	0.403	0.025	0.518	0.030	
	MCV	fl	76.5	5.0	84.0	5.0	92.5	5.0	
	MCH	pg	25.1	2.5	28.5	2.5	31.6	2.5	
		fmol	1.56	0.20	1.77	0.20	1.96	0.20	
	MCHC**	g/dl	32.8	3.0	34.0	3.0	34.2	3.0	!!
		mmol/l	20.4	2.0	21.1	2.0	21.2	2.0	
Closed sampling	RBC	10^{12}/l	2.39	0.15	4.80	0.24	5.56	0.30	
	HGB	g/dl	6.0	0.4	13.7	0.6	17.5	0.7	
		mmol/l	3.7	0.3	8.5	0.4	10.9	0.5	
	HCT	%	18.3	2.0	40.3	2.5	51.4	3.0	
		l/l	0.183	0.020	0.403	0.025	0.514	0.030	
	MCV	fl	76.5	5.0	84.0	5.0	92.5	5.0	
	MCH	pg	25.1	2.5	28.5	2.5	31.5	2.5	
		fmol	1.56	0.20	1.77	0.20	1.95	0.20	
	MCHC**	g/dl	32.8	3.0	34.0	3.0	34.0	3.0	
		mmol/l	20.4	2.0	21.1	2.0	21.1	2.0	
Open sampling & Closed sampling	RDW-SD	fl	43.5	10.0	44.0	10.0	46.0	10.0	
	RDW-CV	%	16.0	5.0	14.6	5.0	14.0	5.0	
	PLT(op)	10^9/l	55	20	200	40	400	65	op = open mode
	PLT (cl)	10^9/l	55	20	200	40	380	65	cl = closed mode
	MPV	fl	9.7	3.0	10.0	3.0	10.5	3.0	
	PLT-O(op)	10^9/l	64	35	215	65	410	85	op = open mode
	PLT-O(cl)	10^9/l	64	35	215	65	410	85	cl = closed mode
	PCT	%	0.05	0.03	0.21	0.07	0.43	0.11	
		ml/l	0.5	0.3	2.1	0.7	4.3	1.1	
	PDW	fl	11.0	5.0	11.5	5.0	12.4	5.0	
	P-LCR	%	25.0	20.0	25.0	20.0	25.0	20.0	
	IPF	%	21.0	15.0	21.0	15.0	21.0	15.0	
	NRBC #	10^9/l	3.04	1.50	5.80	2.00	17.10	4.00	
	NRBC	%	100.0	20.0	100.0	20.0	100.0	20.0	
	IMI #	10^6/l	750	500	1100	700	1300	800	
	IG # (op)	10^9/l	0.51	0.20	0.96	0.40	2.96	1.60	op = open mode
	IG # (cl)	10^9/l	0.51	0.20	0.92	0.40	2.78	1.60	cl = closed mode
	IG	%	15.0	5.0	13.0	5.0	14.5	5.0	
	DIFF-X	ch	150.0	30.0	148.0	30.0	147.0	30.0	
	DIFF-Y	ch	50.0	30.0	50.0	30.0	50.0	30.0	
	BASO-X	ch	109.0	30.0	106.0	30.0	105.0	30.0	
	BASO-Y	ch	144.0	40.0	143.0	40.0	141.0	40.0	
	IMIDC	fl	374.0	60.0	378.0	50.0	385.0	50.0	
	IMIRF	fl	130.0	50.0	134.0	40.0	136.0	40.0	
	NRBC-X	ch	200.0	30.0	188.0	30.0	183.0	30.0	
	NRBC-Y	ch	136.0	30.0	135.0	30.0	136.0	30.0	
	RBC-O	10^{12}/l	2.43	0.30	4.85	0.50	5.70	0.60	
	RBC-X	ch	22.0	15.0	23.0	15.0	24.5	15.0	
	RBC-Y	ch	150.0	35.0	161.0	35.0	168.0	35.0	

*** XE-diff must be analyzed in the instrument e-Check Quality Control mode.**
**** When using CD-ROM for Assay values setup some instruments read MCHC incorrectly**

2°C 8°C IVD CE

Assay Value Sheet

IMPORTANT NOTE: For Reticulocyte parameters use the XERet control (PN 3652, 3653, 3654).

D0000824
Version: 8.0

Assay values XE-Diff Controls

LOT : 232

: 2014-11-19

REF : 3731, 3732, 3733

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The devices as mentioned in this insert comply with the In Vitro Diagnostic Medical Devices Directive 98/79/EC.

Assay values and expected ranges for: Sysmex Instruments: XT-1800i and XT-2000i *

	Parameters		LOW (3731)		NORMAL (3732)		HIGH (3733)		
			Mean	Range ±	Mean	Range ±	Mean	Range ±	
Open sampling	WBC	10^9/l	3.40	0.80	7.40	1.00	20.20	2.20	
	NEUT #	10^9/l	2.21	0.60	4.00	1.00	12.52	2.02	
	LYMP #	10^9/l	0.58	0.35	2.04	0.68	4.24	1.85	
	MONO #	10^9/l	0.12	0.12	0.41	0.41	0.71	0.71	
	EOS #	10^9/l	0.49	0.24	0.96	0.52	2.73	1.45	
	BASO #	10^9/l	2.72	1.20	5.55	2.40	16.16	5.70	
Closed sampling	WBC	10^9/l	3.40	0.80	7.10	1.00	19.20	2.20	
	NEUT #	10^9/l	2.21	0.60	3.83	1.00	11.90	1.95	
	LYMP #	10^9/l	0.58	0.35	1.95	0.65	4.03	1.75	
	MONO #	10^9/l	0.12	0.12	0.39	0.39	0.67	0.67	
	EOS #	10^9/l	0.49	0.24	0.92	0.50	2.59	1.35	
	BASO #	10^9/l	2.72	1.20	5.33	2.30	15.36	5.50	
Both modes	NEUT	%	65.0	12.0	54.0	12.0	62.0	10.0	
	LYMP	%	17.0	9.0	27.5	9.0	21.0	9.0	
	MONO	%	3.5	3.5	5.5	5.5	3.5	3.5	
	EOS	%	14.5	7.0	13.0	7.0	13.5	7.0	
	BASO	%	80.0	20.0	75.0	25.0	80.0	20.0	
Open Sampling	RBC	10^{12}/l	2.39	0.15	4.80	0.24	5.60	0.30	
	HGB	g/dl	6.0	0.4	13.7	0.6	17.7	0.7	
		mmol/l	3.7	0.3	8.5	0.4	11.0	0.5	
	HCT	%	18.8	2.0	41.3	2.5	52.9	3.0	
		l/l	0.188	0.020	0.413	0.025	0.529	0.030	
	MCV	fl	78.5	5.0	86.0	5.0	94.5	5.0	
	MCH	pg	25.1	2.5	28.5	2.5	31.6	2.5	
		fmol	1.56	0.20	1.77	0.20	1.96	0.20	
	MCHC**	g/dl	32.0	3.0	33.2	3.0	33.4	3.0	
		mmol/l	19.8	2.0	20.6	2.0	20.8	2.0	
Closed sampling	RBC	10^{12}/l	2.39	0.15	4.80	0.24	5.56	0.30	
	HGB	g/dl	6.0	0.4	13.7	0.6	17.5	0.7	
		mmol/l	3.7	0.3	8.5	0.4	10.9	0.5	
	HCT	%	18.8	2.0	41.3	2.5	52.5	3.0	
		l/l	0.188	0.020	0.413	0.025	0.525	0.030	
	MCV	fl	78.5	5.0	86.0	5.0	94.5	5.0	
	MCH	pg	25.1	2.5	28.5	2.5	31.5	2.5	
		fmol	1.56	0.20	1.77	0.20	1.95	0.20	
	MCHC**	g/dl	32.0	3.0	33.2	3.0	33.3	3.0	!!
		mmol/l	19.8	2.0	20.6	2.0	20.7	2.0	
Open sampling & Closed sampling	RDW-SD	fl	43.5	10.0	44.0	10.0	46.0	10.0	
	RDW-CV	%	16.0	5.0	14.6	5.0	14.0	5.0	
	PLT (op)	10^9/l	64	20	220	40	430	65	op = open mode
	PLT (cl)	10^9/l	64	20	220	40	400	65	cl = closed mode
	MPV	fl	9.2	3.0	9.7	3.0	10.2	3.0	
	PLT-O(op)	10^9/l	58	35	195	65	400	85	op = open mode
	PLT-O(cl)	10^9/l	58	35	195	65	400	85	cl = closed mode
	PCT	%	0.05	0.03	0.21	0.07	0.43	0.11	
		ml/l	0.5	0.3	2.1	0.7	4.3	1.1	
	PDW	fl	11.0	5.0	11.5	5.0	12.4	5.0	
	P-LCR	%	25.0	20.0	25.0	20.0	25.0	20.0	
	DIFF-X	ch	150.0	30.0	148.0	30.0	147.0	30.0	
	DIFF-Y	ch	50.0	30.0	50.0	30.0	50.0	30.0	
	BASO-X	ch	109.0	30.0	106.0	30.0	105.0	30.0	
	BASO-Y	ch	144.0	40.0	143.0	40.0	141.0	40.0	
	RBC-O*	10^{12}/l	2.43	0.30	4.85	0.50	5.66	0.60	
	RBC-X*	ch	22.0	15.0	23.0	15.0	24.5	15.0	
	RBC-Y*	ch	150.0	35.0	161.0	35.0	168.0	35.0	

*** XE-diff must be analyzed in the instrument e-Check Quality Control mode.**
*** Not available for the Sysmex XT-1800i**
**** When using CD-ROM for Assay values setup some instruments read MCHC incorrectly**

2°C 8°C

IVD

CE

Assay Value Sheet

D0000824
Version: 8.0

Assay values XE-Diff Controls

LOT	:	232
	:	2014-11-19
REF	:	3731, 3732, 3733

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Assay values and expected ranges for: Sysmex Instruments: XS-1000i

	Parameters		LOW (3731)		NORMAL (3732)		HIGH (3733)	
			Mean	Range ±	Mean	Range ±	Mean	Range ±
Manual sampling	WBC-C	10^9/l	3.55	1.20	7.25	1.80	20.40	3.00
	WBC-D	10^9/l	3.50	1.20	7.20	1.80	20.10	3.00
	RBC	10^{12}/l	2.40	0.15	4.85	0.24	5.70	0.30
	HGB	g/dl	5.9	0.4	13.6	0.6	17.6	0.7
		mmol/l	3.7	0.3	8.4	0.4	10.9	0.5
	HCT	%	18.5	2.0	41.0	2.5	52.9	3.0
		l/l	0.185	0.020	0.410	0.025	0.529	0.030
	MCV	fl	77.1	5.0	84.5	5.0	92.8	5.0
	MCH	pg	24.6	2.5	28.0	2.5	30.9	2.5
		fmol	1.53	0.20	1.74	0.20	1.92	0.20
	MCHC**	g/dl	31.9	3.0	33.2	3.0	33.3	3.0 !!
		mmol/l	19.8	2.0	20.6	2.0	20.7	2.0
	RDW-SD	fl	45.0	10.0	46.0	10.0	48.5	10.0
	RDW-CV	%	17.0	5.0	15.5	5.0	15.0	5.0
	PLT	10^9/l	60	25	215	40	405	65
	MPV	fl	9.3	3.0	9.9	3.0	10.4	3.0
	NEUT #	10^9/l	2.01	0.87	3.42	1.08	10.35	2.41
	LYMP #	10^9/l	0.54	0.42	2.02	1.08	4.42	2.01
	MONO #	10^9/l	0.11	0.11	0.29	0.29	0.70	0.70
	EOS #	10^9/l	0.53	0.35	0.94	0.65	2.81	1.61
	BASO #	10^9/l	0.32	0.32	0.54	0.54	1.81	1.81
	NEUT	%	57.5	25.0	47.5	15.0	51.5	12.0
	LYMP	%	15.5	12.0	28.0	15.0	22.0	10.0
	MONO	%	3.0	3.0	4.0	4.0	3.5	3.5
	EOS	%	15.0	10.0	13.0	9.0	14.0	8.0
	BASO	%	9.0	9.0	7.5	7.5	9.0	9.0
	PCT	%	0.06	0.03	0.21	0.07	0.42	0.11
		ml/l	0.6	0.3	2.1	0.7	4.2	1.1
	PDW	fl	12.5	5.0	12.0	5.0	13.0	5.0
	P-LCR	%	18.0	12.0	18.0	13.0	22.0	15.0
	DIFF-X	ch	153.0	30.0	152.0	30.0	151.0	30.0
	DIFF-Y	ch	51.0	30.0	62.0	30.0	63.0	30.0
	FSC-X	ch	29.0	10.0	28.0	10.0	30.0	15.0

Assay values and expected ranges for: Sysmex Instruments: XN-Series

	Parameters		LOW (3731)		NORMAL (3732)		HIGH (3733)	
			Mean	Range ±	Mean	Range ±	Mean	Range ±
Manual sampling	WBC	10^9/l	3.45	1.20	7.10	1.80	19.60	3.00
	WBC-D	10^9/l	3.50	1.20	7.10	1.80	20.00	3.00
	RBC	10^{12}/l	2.32	0.15	4.84	0.24	5.64	0.30
	HGB	g/dl	6.0	0.4	13.9	0.6	18.0	0.7
		mmol/l	3.7	0.3	8.6	0.4	11.2	0.5
	HCT	%	18.1	2.0	41.6	2.5	52.7	3.0
		l/l	0.181	0.020	0.416	0.025	0.527	0.030
	MCV	fl	78.0	5.0	86.0	5.0	93.5	5.0
	MCH	pg	25.9	2.5	28.7	2.5	31.9	2.5
		fmol	1.61	0.20	1.78	0.20	1.98	0.20
	MCHC**	g/dl	33.2	3.0	33.4	3.0	34.1	3.0
		mmol/l	20.6	2.0	20.7	2.0	21.2	2.0
	RDW-SD	fl	46.0	10.0	47.0	10.0	47.0	10.0
	RDW-CV	%	16.5	5.0	15.5	5.0	14.0	5.0
	PLT	10^9/l	58	20	220	40	440	65
	MPV	fl	10.4	3.0	10.2	3.0	10.2	3.0
	NEUT #	10^9/l	2.08	0.45	3.59	0.80	11.17	2.00
	LYMP #	10^9/l	0.59	0.40	1.95	0.70	4.02	1.80
	MONO #	10^9/l	0.09	0.09	0.25	0.25	0.59	0.59
	EOS #	10^9/l	0.53	0.25	0.96	0.50	2.84	1.40
	BASO #	10^9/l	0.17	0.17	0.36	0.36	0.98	0.98
	NEUT	%	60.2	10.0	50.5	10.0	57.0	10.0
	LYMP	%	17.0	9.0	27.5	9.0	20.5	9.0
	MONO	%	2.5	2.5	3.5	3.5	3.0	3.0
	EOS	%	15.5	7.0	13.5	7.0	14.5	7.0
	BASO	%	4.8	4.8	5.0	5.0	5.0	5.0
	PLT-O	10^9/l	65.0	38.0	245.0	65.0	472.0	85.0
	PCT	%	0.06	0.03	0.22	0.07	0.45	0.11
		ml/l	0.6	0.3	2.2	0.7	4.5	1.1
	PDW	fl	11.9	5.0	12.0	5.0	12.7	5.0
	P-LCR	%	30.0	20.0	25.0	20.0	25.0	20.0
	IPF	(%)	21.0	15.0	21.0	15.0	21.0	15.0
	IG #	10^9/l	0.52	0.20	0.89	0.40	2.74	1.60
	IG	%	15.0	5.0	12.5	5.0	14.0	5.0
	RBC-O	10^{12}/l	2.32	0.30	4.72	0.50	5.50	0.60

2°C 8°C

IVD

Assay Value Sheet

D0000811
Version: 12.0

3940 Cal-Set 1 Calibration Set | REF : 3940

Calibration Entry Worksheet | LOT : 268
Instrument :
Performed by :
Date : | ⌛ : 2015-01-19

Table 1. Determination of Mean Value

Cal-Set 1	WBC x 10^9 /l	RBC x 10^{12} /l	HGB g/dl or mmol/l	MCV fl	PLT x 10^9 /l
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
Mean Value					
Cal-Set 1 Assigned Value (Table 4. please turn over)					
Difference between Mean Value and Assigned Value					
Tolerance Limits ±	0.2	0.05	0.1	1.0	7

Table 2. Determination of New Calibration Factor

	WBC	RBC	HGB	MCV	PLT
old calibration factor					
(Assigned Value / Mean value) x old calibration factor					

Table 3. Verification of Calibration

Cal-Set 1	WBC x 10^9 /l	RBC x 10^{12} /l	HGB g/dl	MCV fl	PLT x 10^9 /l
1					
2					
3					
4					
5					
Mean Value					
Cal-Set 1 Assigned Value					
Difference between Mean Value and Assigned Value					
Tolerance Limits +/-	0.2	0.05	0.1	1.0	7

HCT (%) versus MCV (fl):

In case of Toa Sysmex, ABX and BioChem analysers HCT (Hematocrit) is used for calibration instead of MCV.
MCV is coverted to HCT by:

$$\text{HCT (\%)} = \frac{\text{RBC (x } 10^{12}\text{/l) x MCV (fl)}}{10}$$

MCV and HCT are directly related to each other. This means the change in MCV is directly proportional to the change in HCT.

Hb (mmol/l):

In case Hb is measured as mmol/l the value listed in g/dl has to be multiplied by the factor 0,6206:
Hb (mmol/l) = Hb (g/dl) x 0,6206

Assay Value Sheet

REF : 3940

LOT : 268

: 2015-01-19

3940 Cal-Set 1 Calibration Set

Table 4. Cal-Set 1 Assigned values

Instrument type	WBC x 10^9 /l ± 0,2	RBC x 10^{12} /l ± 0,05	HGB g/dl ± 0,1	HGB mmol/l ± 0,1	MCV fl ± 1,0	PLT x 10^9 /l ± 7
Coulter Counter Models semi-automates, S-Plus II, II, IV, V, VI, JR, JS, JT, ST, STKR, MD, AcT, MAXM, STKS, HmX, Gen S	10.5	4.55	13.4	8.3	88.0	250
Avantor BeneSphera™ H-32	10.3	4.41	13.4	8.3	89.0	220
Erma Models PCE 170, PCE 210	10.5	4.55	13.4	8.3	88.0	250
Sysmex™ series K-series, F-series and X-series (CBC-mode) KX-21	10.4	4.64	13.3	8.2	82.2	250
Drew, Danam, MWI All models (except Excell 22)	10.5	4.47	13.4	8.3	90.0	235
Orphee Mythic 18	10.5	4.47	13.4	8.3	90.0	235
Swelab Autocounter 3-part diff series: AC900, AC920, AC970	10.4	4.50	13.3	8.3	86.0	255
Medonic CA series CA-series	10.4	4.51	13.0	8.1	87.0	240
SEAC H8, H10, H12, Genius	10.5	4.55	13.4	8.3	88.0	250
SEAC HeCo Systems (including Vet)	10.1	4.60	13.1	8.1	85.0	239
Abbott Cell-Dyn series semi-automates, CD1300, CD1600, CD1700, CD2000	10.3	4.50	13.3	8.3	90.0	243
Nihon MEK series semi-automates, automated MEK series	10.6	4.56	13.7	8.5	90.2	261
ABX: Micros, Pentra 60, 80, 120 (CBC Mode) **Bayer:** Advia 60	10.3	4.54	13.3	8.3	83.8	247
Diatron series Abacus, Arcus	10.7	4.71	13.5	8.4	91.9	262
AVL (Contraves) series Digicell 500/800, AVL-808, AVL-816, AVL-818	10.5	4.55	13.4	8.3	88.0	250
Mindray BC Series	10.2	4.59	13.8	8.6	94.0	220

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8°C
2°C

IVD

CE

Assay Value Sheet

D0000827
Version: 3.0

Assay values WBC Reduced RBC Control

LOT	:	160	REF	:	**3698, 3699**
	:	2015-01-19			

Assay values and expected ranges

Method	Parameter	Low Abnormal (3698) Mean	Low Abnormal (3698) Range	High Abnormal (3699) Mean	High Abnormal (3699) Range
Flow Cytometer	**WBC 10^6/L**	2.5	0.5 - 4.5	21.7	16.2 - 27.2
Nageotte Chamber	**WBC 10^6/L**	2.3	0.3 - 4.3	18.5	13.0 - 24.0

Product Description

WBC reduced RBC Control is used as a process control to monitor white blood cell-reduced RBC products, including the dilution and staining process, method set-up and WBC enumeration.
WBC reduced RBC Control is a reliable product that provides means of determining the precision and accuracy of analytical procedures that measure the residual leucocytes in blood products.
It is tested in the same manner as blood products used for transfusion purposes.

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2ºC 8ºC

IVD

CE

Assay Value Sheet

D0000818
Version: 9.0

Assay values Platelet Control Extended

LOT	:	167	REF	:	**3424**
	:	2014-12-19			

Assay values and expected ranges for Platelet Control Extended

Instrument	PLT x 10^9/L	
	Mean	Range -
Abbott Cell-Dyn® Sapphire	1645	1475 - 1815
Abbott Cell-Dyn 3500 / 3700	1800	1600 - 2000
ABX Micros 60	1840	1590 - 2090
ABX Pentra 80 (Rev. 1.11.0)	1710	1430 - 1990
Bayer Advia® 120	1900	1650 - 2150
Beckman Coulter® GenS™	1715	1535 - 1895
Sysmex XE-XT	1630	1430 - 1830

Note: Assay means and range values may exceed manufacturer's linearity claims.
Linearity must be verified by the user.

INTENDED USE
Platelet Control Extended is a control for use in monitoring values from hematology instruments that provide Platelet determinations. Refer to the Assay table for specific instrument models.

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2°C 8°C

IVD

Stains and Dyes – Giemsa and May-Grünwald

Ordering Information

Product	Product Number	Packaging
May-Grünwald	3855.0500	500 ml
May-Grünwald	3855.1000	1 L
May-Grünwald	3855.2500	2.5 L
Giemsa	3856.0500	500 ml
Giemsa	3856.1000	1 L
Giemsa	3856.2500	2.5 L
Sørensen buffer concentrate	3716	10 x 100 ml

Introduction

May-Grünwald and Giemsa stains are used for tissue sections, cytology smears, blood smears and bone marrow. J.T.Baker® brand stains have optimized formulations, resulting in balanced colors with easy adaptable tones and an avoidance of crystallization. The purple color of cell nuclei is due to molecular interaction between eosin Y and an azure B-DNA. May-Grünwald's eosin methylene blue and Giemsa's azure eosin methylene blue are intended to be used for staining of blood and bone marrow smears and cytological specimens, such as urine sediment or sputum. For staining of most histology specimens (mostly gastric sections), Giemsa is used. Sørensen buffer solution can be used for easy diluting.

Composition

May-Grünwald is alcohol based and contains May-Grünwald's eosin methylene blue and methanol (>85%). Giemsa is alcohol based and contains Giemsa's azure eosin methylene blue, methanol (>50%) and glycerol.

Stability and Storage

May-Grünwald and Giemsa are stable for five years when the bottles are kept closed and stored at room temperature (18 - 30°C). Products that are past their shelf-life must be disposed of, according to local disposal guidelines.

Procedures for bone marrow, cytology samples and blood smears

- General method for bone marrow or cytology specimen or for whole blood smears:

1. Prepare Sørensen buffer solution pH 7:
   Dilute 100 ml of the concentrated Sørensen phosphate buffer with 1.9L deionized water.
2. Prepare the May-Grünwald working solution:
   Dilute 250 ml May-Grünwald solution with 250 ml Sorensen buffer solution pH 7.
3. Prepare the Giemsa working solution:
   Dilute 50 ml Giemsa solution with 450 ml Sørensen buffer solution pH 7.
4. Proceed according to the table below:

Reagent sequence	Minutes
Undiluted May-Grünwald	3
May-Grünwald working solution	5
Move slides gently in Sørensen buffer pH 7	1
Move slides gently in Giemsa working solution	20 (blood smears) 25 (bone marrow, cytology)
Flush in tap or deionized water	

- Traditional method according to Pappenheim for whole blood smears:

1. Prepare Sørensen buffer solution pH 7:
   Dilute 100 ml of the concentrated Sørensen phosphate buffer with 1.9L deionized water.
2. Prepare the Giemsa working solution:
   Dilute 25 ml Giemsa solution with 475 ml Sørensen buffer solution pH 7.
3. Proceed according to the table below:

Reagent sequence	Minutes
Undiluted May-Grünwald	3
Flush in deionized water	1
Move slides gently in Giemsa working solution	20
Flush in tap or deionized water	

- Quick staining method for whole blood smears:

1. Prepare Sørensen buffer solution pH 7:
   Dilute 100 ml of the concentrated Sorensen phosphate buffer with 1.9L deionized water.
2. Prepare the Giemsa working solution:
   Dilute Giemsa solution 1 to 6 up to 1 to 8 with Sørensen buffer solution pH 7.
3. Proceed according to the table below:

Reagent sequence	Minutes
Undiluted May-Grünwald	2 - 3
Move slides gently in Sørensen buffer pH 7	1
Move slides gently in Giemsa working solution	4 - 5
Flush in tap or deionized water	

- Quick staining method for whole blood smears:

1. Prepare Sørensen buffer solution pH 7:
   Dilute 100 ml of the concentrated Sørensen phosphate buffer with 1.9L deionized water.
2. Prepare the Giemsa working solution:
   Dilute Giemsa solution 1 to 6 up to 1 to 8 with Sørensen buffer solution pH 7.
3. Proceed according to the table below:

Reagent sequence	Minutes
Undiluted May-Grünwald	2 - 3
Flush in tap or deionized water	1
Giemsa working solution	4 - 5
Flush in tap or deionized water	

Note: The times as listed in the tables are approximate and can be adjusted to suit personal preferences. Staining solutions will lose their staining power when heavily used so the staining times should be longer or fresh solutions should be used.

Performance Characteristics

Type Blood-cell	Amount	Characteristics
RBC	4 – 6 x 10^{12}/liter	Pink/brown discs; clearer in the middle due to their concave structure
PLT	0.2 – 0.3 x 10^{12}/liter	Purple colored granules; much smaller then RBC
NEUT	50 – 70 % *	Transparent, pink/blue cytoplasm; 2-5 lobed bright purple nucleus
EO	2 – 4 %	Typical pink-orange granulated cytoplasm; generally 2-lobed purple nucleus
LYM	20 – 40 %	Transparent purple cytoplasm; one large, purple-pink nucleus
MONO	3 – 8 %	Largest of the leukocytes; transparent, pink/blue cytoplasm with horseshoe-shaped pink/purple nucleus
BASO	0.5 – 1.0 %	Granulo-rich cytoplasm exhibiting dark-blue stain overruling the dark-blue nucleus stain

* From total WBC population; generally 5 – 7 x 10^{9} cells/liter

Troubleshooting bone marrow, cytology samples and blood smears

Insufficient color development of leucocytes

- Prepared smears not completely dried
- Glass slides used are not degreased or pre-treated
- Exhausted May-Grünwald or Giemsa working solution

Too much erythrocyte fragments

- Specimen older than 12 hours
- Blood smear dried at ambient temperature > 30°C
- Prepared smear not completely dried

Color too much blue and red

- Too long staining in May-Grünwald and Giemsa
- Too short color development in Sorensen buffer or deionized water
- Ambient temperature > 30°C

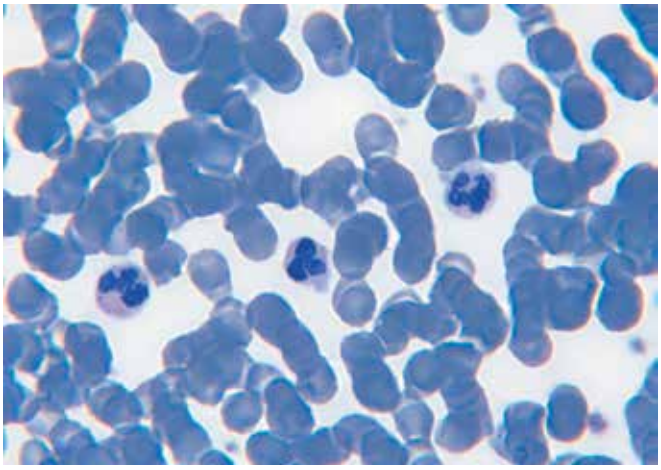

Fig.11 May-Grünwald stained blood cells (100x).

Stains and Dyes – Leishman

Ordering Information

Product	Product Number	Packaging
Leishman	3879.1000	1 L
Sørensen buffer concentrate	3716	10 x 100 ml

Introduction

Leishman's stain is used for blood smears and bone marrow. It is generally used to differentiate and identify leucocytes, malaria parasites, and trypanosomas (unicellar parasitic protozoa). It is based on a mixture of methylene blue and eosin. J.T.Baker® brand stains result in optimized color intensity for clear results in most testing procedures. The purple color of cell nuclei is due to molecular interaction between eosin Y and an azure B-DNA complex. The intensity of the staining depends on the azure B content and on the ratio azure B/eosin Y.

Composition

Leishman contains Leishman stain and methanol.

Stability and Storage

Leishman staining solution is stable for five years when the bottles are kept closed and stored at room temperature (18 - 30°C). Products that are past their shelf-life must be disposed of, according to local disposal guidelines.

Procedure

- Method using a concentrated Leishman / Buffer solution:

1. Prepare Sørensen buffer solution pH 7:
   Dilute 100 ml of the concentrated Sørensen phosphate buffer with 1.9L deionized water.
   Do not use tap water.
2. Prepare the Leishman / Buffer solution:
   Dilute 50 ml Leishman solution with 150 ml Sørensen buffer solution pH 7
3. Mix and allow to stand for 10 minutes.
4. Proceed according to the table below:

Reagent sequence	Minutes
Undiluted Leishman	1
Leishman / Buffer solution	7
Rinse in distilled or deionized water	Few sec.
Buffer	2
Rinse in distilled or deionized water	Few sec.
Dry	

- Method using a more diluted Leishman / Buffer solution

1. Prepare Sørensen buffer solution pH 7:
   Dilute 100 ml of the concentrated Sørensen phosphate buffer with 1.9L deionized water.
   Do not use tap water.
2. Prepare a cytospin slide or smear by gently lowering the slide into a coplin jar of acetic alcohol (3% acetic acid in 95% methanol), fix for 1 minute, wash off the fixative with distilled water and drain.
3. Prepare the Leishman / Buffer solution:
   Dilute 50 ml Leishman solution with 250 ml Sørensen buffer solution pH 7.
4. Mix and allow to stand for 10 minutes.
5. Proceed according to the table below:

Reagent sequence	Minutes
Undiluted Leishman	1
Leishman / Buffer solution	6
Buffer	1
Buffer	1
Rinse in running tap water	2
Dry	

Note: The times as listed in the tables are approximate and can be adjusted to suit personal preferences. Staining solutions will lose their staining power when heavily used and the staining times should be longer or fresh solutions should be used.

Performance Characteristics

Red blood cells: red to yellowish red
Neutrophils: dark purple nuclei, pale pink cytoplasm, reddish-lilac small granules
Eosinophils: blue nuclei, pale pink cytoplasm, red to orange-red large granules
Basophils: purple to dark blue nucleus, dark purple, almost black large granules
Lymphocytes: dark purple to deep bluish purple nuclei, sky blue cytoplasm
Platelets: violet to purple granules
Parasites: Dark blue – black (Leishmania, malaria, etc.)

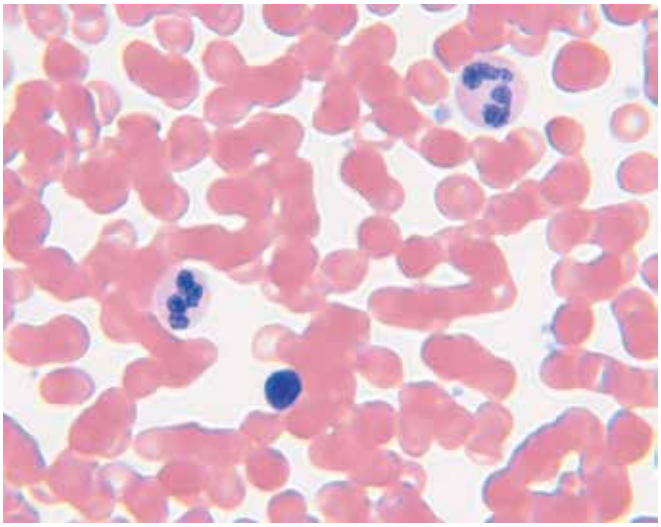

Fig.12 Leishman stain (100x).

Troubleshootings

Red cells are blue and nuclei are deeply stained

- Prolonged staining
- Inadequate washing
- Excessively alkaline stain or stain/buffer mixture
- pH of buffer too high

Excessive redness of red cells and poor staining of nuclei

- Inadequate staining
- Excessive washing
- Excessively acid stain or stain/buffer mixture
- pH of buffer too low

Stains and Dyes – Wright

Ordering Information

Product	Product Number	Packaging
Wright	3878.1000	1 L
Sørensen buffer concentrate	3716	10 x 100 ml

Introduction

Wright's stain is used for blood smears and bone marrow. It is generally used for differential blood picture staining and is based on eosin methylene blue. The J.T.Baker® Wright-Giemsa formulation results in an intense differential stain for blood smears, bone marrows, mast cells, and FNA's. The purple color of cell nuclei is due to molecular interaction between eosin Y and an azure B-DNA complex. The intensity of the staining depends on the azure B content and on the ratio azure B/eosin Y.

Composition

Wright is alcohol based and contains Giemsa's azure eosin methylene blue, Wright stain, and methanol.

Stability and Storage

Wright staining solution is stable for one year when the bottles are kept closed and stored at room temperature (18 - 30°C). Products that are past their shelf-life must be disposed of, according to local disposal guidelines.

Procedure

- Method using a concentrated Wright / Buffer solution:

1. Prepare Sørensen buffer solution pH 7:
   Dilute 100 ml of the concentrated Sørensen phosphate buffer with 1.9L deionized water.
   Do not use tap water.
2. Prepare a cytospin slide or smear of sample.
   Blood smears may be pre-fixed with methanol for 30 seconds.
3. Prepare the Wright / Buffer solution:
   Dilute 50 ml Wright solution with 250 ml Sørensen buffer solution pH 7.
   Mix and allow to stand for 10 minutes.
4. Proceed according to the table below:

Reagent sequence	Minutes
Undiluted Wright	3
Wright / Buffer solution	6
Buffer	2
Rinse in running tap water	2
Dry	

- Method using a more diluted Wright / Buffer solution:

1. Prepare Sørensen buffer solution pH 7:
   Dilute 100 ml of the concentrated Sørensen phosphate buffer with 1.9L deionized water.
   Do not use tap water.
2. Prepare a cytospin slide or smear of sample. Blood smears may be pre-fixed with methanol for 30 seconds.
3. Prepare the Wright / Buffer solution:
   Dilute 1 ml Wright solution with 400 ml Sørensen buffer solution pH 7.
   Mix and allow to stand for 10 minutes.
4. Proceed according to the table below:

Reagent sequence	Minutes
Undiluted Wright	5
Wright / Buffer solution	3
Rinse with buffer	20 sec.
Dry	

Note: The times as listed in the tables are approximates and can be adjusted to suit personal preferences. Staining solutions will lose their staining intensity when heavily used and the staining times should be longer or fresh solutions should be used.

Performance Characteristics

Red blood cells: red to pink
Neutrophils: dark purple nuclei, pale pink cytoplasm, reddish-lilac small granules
Eosinophils: blue nuclei, pale pink cytoplasm, red to orange-red large granules
Basophils: purple to dark blue nucleus, dark purple, almost black large granules
Lymphocytes: dark purple to deep bluish purple nuclei, sky blue cytoplasm
Platelets: violet to purple granules

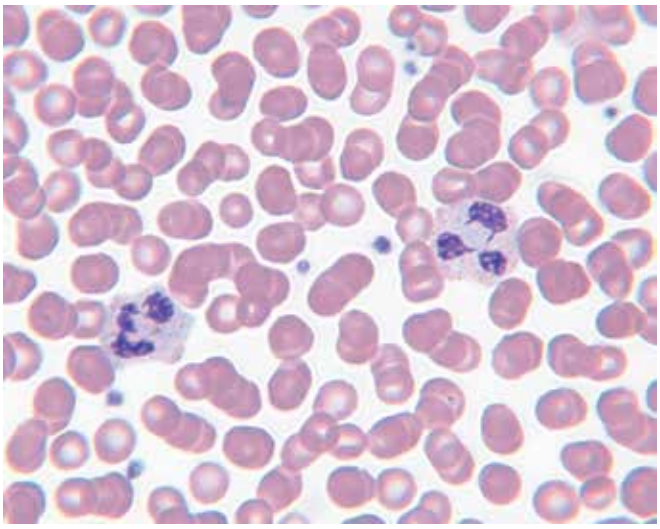

Fig.13 Wright stained blood cells (100x)

Troubleshootings

Red cells are blue and nuclei are deeply stained

- Prolonged staining
- Inadequate washing
- Excessively alkaline stain or stain/buffer mixture
- pH of buffer too high

Excessive redness of red cells and poor staining of nuclei

- Inadequate staining
- Excessive washing
- Excessively acid stain or stain/buffer mixture
- pH of buffer too low

Stains and Dyes – RetiCount™

Ordering Information

Product	Product Number	Packaging
Reticount™	3774	30 ml

Introduction

J.T.Baker® Reticount™ is a special hematology stain intended for the identification of reticulocytes in blood smears and for counting the number of reticulocytes per 1000 erythrocytes by microscopic analysis. An erythrocyte will be counted as reticulocyte when it contains 2 or more blue-stained granules.

Composition

RetiCount™ is water based and contains potassium oxalate, sodium chloride and brilliant cresyl blue.

Stability and Storage

RetiCount™ is stable for 2 years when the bottles are kept closed and stored at room temperature (18 - 30 °C). Products that are past their shelf-life must be disposed of, according to local disposal guidelines.

Procedure

- Single slide dip technique:

1. Mix in a plastic test tube 1 drop of RetiCount™ with 3 drops of fresh whole human blood (anticoagulated with EDTA or citrate). Heparin interferes with RetiCount™ and should not be used.
2. Incubate 15 minutes at room temperature.
3. Mix the content after incubation.
4. Make a smear of this mixture on a slide.
5. Air dry the smear before microscopic examination.
6. Examine the object at a microscopic magnification of 1000 (10x ocular and 100x oil immersion objective).
7. The erythrocytes are homogeneous pale blue coloured. A reticulocyte contains 2 or more blue-stained particles.
8. Calculate the reticulocyte percentage according to laboratory procedures.

CE

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